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Thames Tideway Enforcement

The Case for a Single Unified Agency

Study Background

This report was completed as part of Doctorate in Professional Studies under the auspices of the National Centre for Work-Based Learning Partnerships at Middlesex University. The studies were supervised by Professor Jonathan Garnett and Professor Ron Hamilton and were sponsored by the Corporation of London: The author's employer.

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The views expressed in this report are those of the author alone and do not in any way represent the views or policies of any other individual or organisation, unless otherwise stated. Any errors or incorrect statements are the author's personal responsibility.

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Glossary of Terms and Abbreviations

ASBO Anti-Social Behaviour Order	A legal restriction placed on persons who consistently break or flout a wide range of legislative provisions
Association of Port Health Authorities	The umbrella association for all UK Port Health Authorities, recognised as a statutory consultee by both the UK and EU administration
BCC British Chamber of Commerce	The association of British Businesses which act as a lobby/constructive group with Government
City of London Corporation	The Local Authority for the “Square Mile” the financial centre of London, it is in fact two Local Authorities also being the LPHA
CSO Combined Sewer Overflows	Normally a surface water discharge point in the river, these discharge untreated raw sewage into the river whenever the sewers surcharge. The discharge then becomes “combined” surface water and sewage
DEFRA Department of Environmental Food and Rural Affairs	The UK Government Department responsible for Estuarial Policy the EA and FSA are both Agencies which report (inter alia) to DEFRA
DoH Department of Health	The Government Department with responsibility for UK health policy
EA Environmental Agency	The UK National Agency responsible for Environmental controls (i.e. <u>not</u> Environmental Health controls) throughout England and Wales.
EHN Environmental Health News	The weekly publication of the Chartered Institute of Environmental Health
English Nature	The Government Agency responsible for ensuring sustainable habitats for indigenous wildlife and plants
FSA Food Standards Agency	The UK Government Agency responsible for setting standards for food composition safety and hygiene.

Glossary of Terms and Abbreviations

Hampton Report	A report prepared by a group chaired by Sir Philip Hampton examining the possibility of streamlining UK legislative regulation and has developed a RIA system
HMC & E Her Majesties Customs & Excise	A predecessor of HMC & R
HMC & R Her Majesties Customs & Revenue	The Government Agency charged with collection of Government Taxation.
HPA Health Protection Agency	The Government Agency responsible for health controls reporting to the DoH
IDCL Infectious Disease Control Legislation	The substantial body of legislation of UK EC and International provenance which is enforced in the TT by the LPHA and the HPA
Kent and Essex Sea Fisheries Committee	The regulatory body currently (2006) charged with control of sea fisheries in the Thames Estuary
London Port Health Authority	The organisation responsible for much of the Thames Tideway Environmental Health enforcement. It is a division of the City of London Corporation
MCA Marine and Coastguard Agency	The UK National Agency responsible for all marine safety issues in all navigable coastal/tidal waters
Mollusc	Shell fish (mainly, but not exclusively cockles in the TT)
MHS Meat Hygiene Service	The regulatory body for all meat related issues in England
MOU Memoranda of Understanding	A quasi legal agreement formally entered into between organisations to ensure that expectations of each other are fully understood
MSA Marine Safety Agency	A predecessor to the MCA

Glossary of Terms and Abbreviations

NGO's Non Governmental Organisations	Organisations which may have national impact but are not government bodies
OFWAT Office for Water Regulation	The Government Agency charged with setting policy and spending for water infrastructure. It therefore effectively controls the prices consumers pay for water and sewage services.
Pelagic Fish	Fish with fins
PLA Port of London Authority Red List	The Port Authority for the Thames (Not the Medway) A list of endangered species in the UK maintained by the Environment Agency and English Nature
RIA Regulatory Impact Assessment	A system developed by the Hampton group to determine the risk/benefits of reducing regulatory burdens on business
RTS River Thames Society	A voluntary body where aims are the protection of the river heritage
SSM Soft System Mythology	A system of linking in research terms the “real” world and the world of “system thinking”
STW Sewage Treatment Works	An intensive industrial plant used to render sewage harmless to human health.
TEP Thames Estuary Partnership	An affiliation of organisations concerned with the management of the physical environment of the Thames Office of the Deputy Prime Minister
Thames River Restoration Trust	A voluntary body concerned with returning the river to a state capable of sustaining salmon.
Thames Tideway	The 94 miles of tidal waters from Teddington Lock in the West to an imaginary line drawn between 51° 26' 36" N 01° 20' 3" E and Gunfleet Old Lighthouse in the Estuarial North Sea. It includes the tidal portions of all associated waterways the Reaches of the River Medway above a line between Coalmouth Creek and Stangate Creek the Easter River Swale and the River Poach and Crouch in Essex.

Glossary of Terms and Abbreviations

Tidal Excursion	The extent of tidal movement of a body of water in the Thames Tideway this is 10-11 km at every tide.
TOSCA Thames Oil Spill Clearance Association	A voluntary body funded by the oil companies operated by the PLA which exists to control accidental oil spills on the Thames.
TTEH Thames Tideway Environmental Health	Thames Tideway Environmental health – all matters pertaining to the interface between the physical environment and human health occurring in the Thames Tideway area.
TW Thames Water	The Private Water Company responsible for both the provision of both potable water and sewage systems for the London Thames catchment (approximately the area to the West of the Dartford Bridge)
Water UK	The Trade association of the Water Industry, it acts as a government lobbying consultative body

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Executive Summary

The River Thames and associated waterways form Britain's largest estuary and presents especial challenges in environmental health control. It is used on the disposal point at the same time supports substantial commercial fisheries. It is the major port of the UK handling imports in 2002 of over 55 million tonnes whilst providing a leisure resource to many of the six million inhabitants that live in its catchment.

These potentially conflicting uses have considerable potential negative effects upon both the food chain and human health (Department of Health 1994).

Current controls on this extremely complex environment are exercised by a variety of Government and non-Governmental agencies. These organisations have many overlapping responsibilities and there are areas of duplication and omission which need to be addressed.

The study undertaken using modified soft systems methodology and a structured interview process examines all these organisations in depth and proposes a single model agency.

This proposed agency would be stakeholder accountable, technically proficient, make better use of resources, and be a more effective lobbyist. It would also have the capability to effect the necessary improvements identified in this study.

Aim of Study

This study was completed to develop a new model for a single unified agency responsible for consistent and integrated health-related environmental enforcement on the Tidal Thames, its major tributaries and estuary.

Background to Aim

No single unified authority encompasses all the health-related environmental enforcement legislation relating to the Thames and its users. Although the plethora of agencies involved in this field have spawned several specific working arrangements (Memoranda of Understanding) there is currently no co-ordinated policy making body and enforcement is fragmented at best.

In order to fully meet both expectations and needs of stakeholders in a readily understandable integrated manner, enforcement of health-related environmental legislation on the Thames should be the responsibility of one single body with powers to act, for the whole river and estuary system. However, such a proposal is not readily realisable given the extremely complex legislative web underpinning and enabling the plethora of agencies involved. The sheer volume of parliamentary time, number of government departments involved and potential costs to achieve such radical change may make such a proposal unrealistic.

Political reality and budgetary constraints dictate that the formation of any further pan London (for this is what such a Thames related agency would be) agency would be most unlikely to gain the support of the Association of London Government or London Boroughs generally whilst the other national agencies would deem the Thames, whilst important, not to be of such significance as to warrant a separate organisation.

Key Findings

This study establishes a clear and strong case for an umbrella organisation to be responsible for all Thames related Environmental Health legislation enforcement. This new organisation is needed to co-ordinate the current fragmented approaches of all the agencies currently involved in the protection of environmental health for the major national resource that is the Thames. Such an organisation would provide much needed integrated strategic and long-term planning.

This report suggest that the proposed organisation would bring the following benefits:

- a) Strategic and co-ordinated planning for environmental health management;
- b) A consistent and single point of contact for all stakeholders;
- c) Proper allocation of resources;
- d) Strong advocacy for the environmental health of the Thames;
- e) Economies of scale in the provision of services;
- f) Rapid and coherent responses to current and emerging threats;
- g) Objectivity in enforcement;
- h) The resources needed to deal with major international offenders.

Key Recommendation

That the Departments of Health, Environment Food and Rural Affairs, Trade and Industry and Home Office and the Food Standards Agency should complete an urgent comprehensive review of the current arrangements for environmental health enforcement on the Thames and test the case for an umbrella organisation acting as a single operational agency.

Part One

General Introduction and Approaches to Study

Part One

Chapter 1

General Introduction and Approaches to Study

General Introduction and Approaches to Study

This introduction provides an overview of this research report which examines the method of provision of environmental health enforcement on the Tidal Thames.

As Director of one of the principal agencies involved in the environmental control of the Tidal Thames (The Tideway) I am concerned with protecting the health of all those who work with, gain their food from, or use as a leisure resource this unique area.

The Tideway consists of the 94 miles of the River Thames from Teddington to the outer estuary and the hundreds of square miles of the estuary itself, with 6 million people dwelling in its catchment.

The Tideway is an extremely stressed environment, beset on all sides by development and redevelopment, used as a water source and a disposal point for London's sewage whilst supporting substantial fisheries and substantial wild life population.

General environmental sustainability (as opposed to Environmental Health) of the Tideway is considerably challenged.

Moderately successful co-ordination of action to control sustainable development has for several years been undertaken by the Thames Estuary partnership (see Chapter 17). In addition to the external pressures outlined above, the Tideway is subject to considerable internal environmental pressures generated by existing port and river traffic. These pressures are likely to increase, as the Port throughput is increasing by between 3% and 6% per annum.

The granting by the ODPM of Planning Permission for the new Thames Gateway Port close to Canvey Island, which will, when completed, be larger than all the existing port facilities together can only add to these pressures.

The successful outcome of the 2012 Olympic Bid will undoubtedly add to pressure on the Tideway. The aggregation of increased passenger traffic, sewage and waste water production and solid waste will all impact on the Tideway.

This important area is "policed" in environmental health terms by a bewildering array of agencies all with slightly different aims, methodologies and policies. I have researched the question "How do the varied organisations contribute to environmental enforcement for the Tideway and in what way" with the overall aim of determining if a better model for this service provision can be delivered. The outcomes of the research

General Introduction and Approaches to Study

will form the basis of a confidential report which may be used to influence future policy for this important national resource.

For many years the author has initiated and maintained inter agency relationships chairing many joint working groups all relating to co-ordinating environmental health enforcement. Whilst these groups have been moderately successful and developed a plethora of Memoranda of understandings and joint working protocols, no strategic planning of either policy issues or resource allocation has been possible.

The Tideway struggles to meet the widely conflicting demands made upon it as

- London major sewer
- a substantial food source
- a major tourist attraction
- a major highway
- a major leisure resource

These conflicting demands often put the health of large numbers of Londoners in jeopardy. Government Departments charged with overseeing the enforcement functions frequently struggle with these conflicting demands and the way in which they inform or indeed drive very major investment decisions.

The Greater London Authority Scrutiny Committee has undertaken reviews of specific river related issues, but has never considered River related environmental health enforcement more broadly.

This study examines the hypothesis that Thames environmental health enforcement can be better delivered by umbrella organisation rather than the variety of agencies currently providing this function. Outcomes could be significantly enhanced.

This report examines in Part Two the reasons that have driven the emergence of the current structure, major problems in the past and how they were addressed.

The current pressures for change in delivery mechanisms are discussed and their potential impact analysed. This current and historical context is set against a clear exposition of the geographical extent of the area under discussion relating that area to both watershed catchments population, and enforcement agency boundaries. The roles of the various organisations is discussed, together with a commentary on the various types of professional expertise available, and the opportunities and constraints offered by the various professional groups involved.

Part Three examines the whole issue of Thames Tideway enforcement in detail, discussing the roles of all the agencies concerned, their levels of resources application and staffing arrangements. The current inter agency liaison arrangements are discussed and their efficiency or otherwise evaluated. The current fragmented policy making

General Introduction and Approaches to Study

arrangements are analysed and strengths and weaknesses identified. The financial arrangements and funding sources for all the enforcement agencies are detailed and analysed.

In Part Four the role of Government inspection and audit in the various agencies is discussed together with the impact on services of the GLA Scrutiny regime together with, the role of Non Governmental Organisations (NGO's) (**figure 9 page 107**) indicates the complexities of these relationships).

Part Five explains how this function is carried out in other major waterways of national or international significance, by way of three case studies. The possibility of benchmarking being made possible as part of this exercise is also examined.

Part Six suggests a model for an umbrella enforcement agency. This model is prepared and tested by reference to stakeholders, taking into account the requirements identified in parts Three and Four.

Part Six also summarises the work undertaken and seeks to conclude whether the Thames Tideway can benefit from a single enforcement agency with integrated policy making and legislative justification. How such a change can be best achieved and in particular what steps are required to make any legislative amendments required is discussed in detail.

The practicality of implementation and a possible incremental programme of change is proposed.

All conclusions and recommendations are based solely on evaluation of empirical evidence gathered during the research using real financial information and arguments which have been tested by reference to stakeholder groups.

Section Seven of this report includes a critique of the methodology adopted in the context of its use and an overview of the methodology used throughout the study is provided.

The key research programmes outcomes are provided at Part Eight of the study and draw together all key findings conclusions and recommendations.

The conclusions and recommendations arrived at by this study seek to establish what case there is for further research to be undertaken and by whom, and will form the basis of a confidential paper to be submitted to the employing authority for the formal decision about how the outcomes are to be implemented.

Additionally a separate policy report of a confidential nature will be prepared [for the use of key decisions makers in the Thames Tideway.]

General Introduction and Approaches to Study

The outcomes also formed the basis of a paper presented to The Association of Port Health Authorities International Annual Conference in 2005, a synopsis of which is attached at Appendix A.

Chapter 2

Terms of Reference and Objectives

Terms of Reference and Objectives

The principal aim of this study is to develop a new model for a single unified agency responsible for consistent and integrated health related environmental enforcement on the Tidal Thames its major tributaries.

1. This will be achieved by examining in detail the current arrangements for environmental health enforcement on the Tidal Thames by considering the major research questions.
2. Exploring possibilities for improvements to the current service delivery arrangements
3. Developing a new model for a single unified agency providing integrated and consistent health related environmental enforcement on the Tidal Thames

Objectives of the Study

1. To develop a model integrated and effective environmental health regime in order to further protect the health of all who use the Tidal Thames for work, leisure, transport or as a food source.
2. To ensure that the needs of all stakeholders are taken into account when developing the model.
3. To ensure that the model is capable of being applied in a geographically inclusive fashion ensuring that all boundary issues are taken into account.

Chapter 3

Involvement of Stakeholders

Involvement of Stakeholders

Environmental Health Enforcement on the Thames Tideway involves a very broad range of other stakeholders ranging from fishermen's groups to Government ministers, from rowing clubs to Agencies responsible for safe shipping and navigation. The authors' engagement involves a spectrum of activities such as conflict resolution, research development, legislative enforcement, infectious disease control and imported food control. The objective of these activities is to secure the health and well being of all those who use the tideway and estuary or who consume food imported through it. The implications for this study of this eclectic range of stakeholders are that an extremely complex series of inter organisation relationships need to be rationally and objectively addressed.

This study will engage the most senior management of these key stakeholder groups to determine their views to assist in the formulation of a model solution which can offer real improvements to the current situation.

Chapter 4

Methodology

Methodology

When considering research of this type the challenge to be faced by the worker researcher is to attempt to draw conclusions from often chaotic and sometimes incoherent data sets presented in unsystemic forms. This challenge has proved to be especially relevant to this study due to the complexity and diversity of organisations considered.

How to tease out genuine knowledge from guess work is, in the view of Dancy (1976), justification. The determination of the limits of knowledge and how this can be appreciated is a matter of continuing controversy especially in respect of the inclusion of morality within the realm of knowledge.

Research methodology used by the worker researcher needs therefore to depend upon understanding of both epistemologies and paradigms which apply to the fields of study concerned.

One definition of epistemology (New Oxford Dictionary of English 1999) is “the investigation of what distinguishes justified belief from opinion” and as the theory of knowledge especially with regard to its methods, validity and scope. The same publication defines methodology as a system of methods used in particular area of study or activity.

In the context of the study I have undertaken, this may be summarised, as the way in which the relevant organisations think about things (as against the way they do things), and the justifications they use for operating as they do.

Exploring the epistemology of my chosen field of research has been especially challenging as each of the agencies researched have their own objectives, values, ethics and culture, some grounded in hundreds of years of history whilst others have had recent imposed change. Methodologies also vary widely, from those adopted by informal groupings of traders and merchants, to the highly developed and prescribed practices of non-governmental organisations and government agencies.

Determining the levels of both objectivity and reflection in this study is difficult as the project researcher is, of course, personally heavily involved in the subject being researched, and is therefore open to a charge of self or employer interest in reaching conclusions.

In this context the cognitive interests of emancipation and freedom expressed as the critical theory paradigm (Garnett 2004), subsume both scientific and interpretive paradigms and out-weigh them since, as stated by Cohen (Cohen et al 2000:29 “The critical theory paradigm is concerned with praxis – action that is informed by reflection with the aim to emancipate”.

In the context of this study this is especially significant, focussing as it does on reflective practice as work based research.

Work based research must of necessity adopt a strictly pragmatic approach, and in respect of this study, such pragmatism involved strict time limitation, the use of pre-existing data intertwined with the high level of specialised pre-knowledge of the researcher.

It is critical that the research presents well informed, persuasive arguments. In order to develop such arguments which are capable of external scrutiny and validation. I have developed a model heavily influenced by the soft systems methodology (SSM) described by Pidd (Pidd 2003) which he describes as involving two worlds. Firstly the “real world” of human activity, in which day to day business and interaction affected by experience, memory, emotion and intent, are conducted. Secondly the world of systems thinking in which abstractions derived from the “real world” are worked on by the analyst in order that they be used to intervene in the “real world”. In Pidd’s view SSM involves five steps, steps one and two involving exploration and finding out, and step three understanding something better by establishing root definitions of relevant systems. Step four involves the development of a conceptual model with step five comparing the conceptual model with the detail of “what is”. This leads to implementing feasible and desirable changes (Pidd’s SSM steps six and seven).

Checkland & Scholes 1990 describe the adoption of SBM processes to action oriented situations.

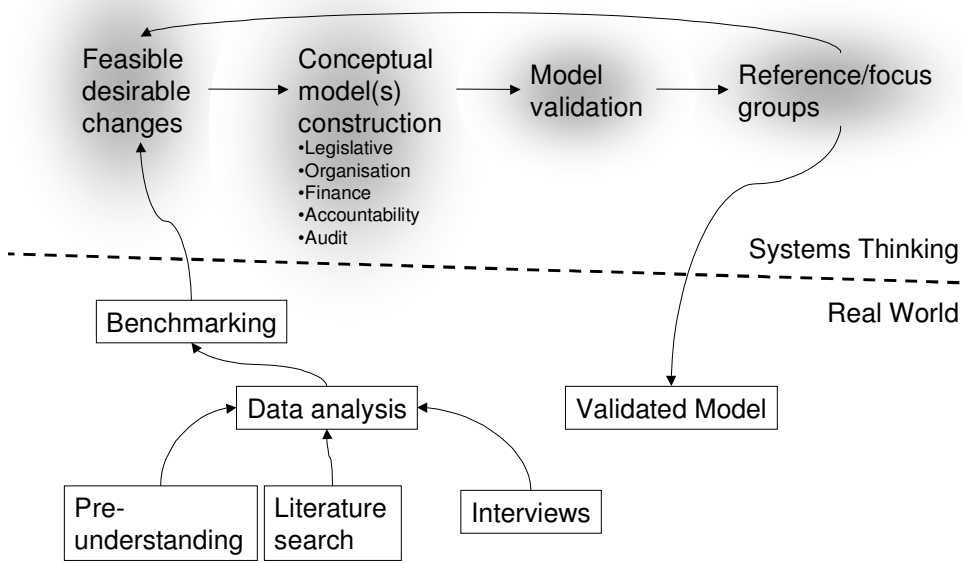
The diagram at **figure one** attempts to encapsulate the SSM approach but is tailored to the specific needs of the Tidal Thames Estuary Enforcement.

The real world/systems thinking model depicted in figure one was extremely helpful in structuring my research approach, melding together the pragmatic considerations required of the subject matter and the rigour of academic investigation and research techniques required when dealing with a subject of this complexity. Each section of this document is prefaced by a depiction of figure one indicating the part of the research model to which it refers.

I have investigated the working arrangements of the agencies (**see table 21**) involved in the control of environmental enforcement in the Thames Tideway by carrying out a detailed literature search, and conducting in depth interviews. The literature search was confined to the last three decades (environmental enforcement has only really “taken off” in that period) but encompassed all world-wide sources produced in English. The search structure was focused by excluding rather than including search parameters, all of course relating to estuarial and tideway management.

The process can be summarised as shown in Figure one below

Environmental Control for the Tidal Thames Enforcement Agency Innovative Model



I have conducted rationally bounded, in depth, modified survey interviews. Moser and Kalton (1971) described this method as a “conversation between interviewer and responder with the purpose of eliciting certain information from the respondent”. In the context of this project interviews proved to be a complex, dynamic and interactive process.

This method is of course only one of several that could be employed and the use of a questionnaire directed to a broader range of interested parties was considered. This approach was however rejected due to an acknowledgement that questionnaire fatigue and the tendency of senior executives to either ignore or pass to junior staff such enquires would reduce both the volume and quality of data received.

The possibility of obtaining up to 32 real data sets by using semi structured interviews albeit involving replies including some generalisations and narrative was considered to offer more value. This process was only possible because in this project the practitioner researcher is accepted as of sufficient status by the top managers and executives of the organisation subject to review to permit such access.

In this context the researcher practitioner may perhaps be seen as a participant observer or an expert ethnographer (albeit in a very narrow and limited field of work).

This interview process was a very useful technique for gathering data (Cohen and Manion 1994) which would probably not be accessible solely using techniques such as observation or questionnaires (Blaxter et al 2001).

Early selection of topics, question preparation and data analysis was essential. As was schedule preparation and the undertaking of a pilot study. The interviews were of a semi-structured nature to ensure the data required was elicited, and consisted of a standard set of questions revolving around the common threads identified. The standard question set is shown at Appendix B page 139.

These interviews generally involved both the managing body and the officers of the organisation concerned. Typically this was a main board member, the Chief Executive and Finance Director of each organisation. The pilot interview was undertaken with the Chief Executive of the Port of London Authority and inevitably involved both quantitative and qualitative components. A review of both the process and the questions posed was then undertaken and the standard question “set” and methodology (process) amended accordingly.

Having collected this data which consisted of several formats or components involving both “hard” data such as financial information and legal constitutions, and “softer” information in the form of narrative (stories) the results were aggregated. The status of the data in terms of reliability and consistency was assessed by reference to published data and practitioner researcher knowledge.

Varying complexities of both the hard and soft data were encountered, and a dense complex overlapping of all data sets and stories provided. The result is a multi-dimensional multilayered data set built up from this information which Ball, 2003 refers to as “reporting density”.

The problem then was to look at the narrative elements and extract the countable elements of consistency. This involved the creation of a controlled vocabulary, which is defined as a dictionary of the terms and elements found in common and of relevance to the project. Each definition has to provide both a core content of each term and element and boundary condition which means, for example, that an enforcement issue is different from a navigation concern or that a financial issue is different from a policy issue.

It would have been possible to computer model this information using what is called inter rater reliability but this is probably outside the scope of this study and certainly outside my statistical competency.

Concerns about missing information in the collection process was addressed by ensuring that reporting density was established and maintained. This, of course, required the full co-operation of all the agencies involved. Coverage across all the social space required was not found to be uniform but by detailed recording and mapping of the data the locations of lacunae were identified. Further efforts were then be made to obtain any missing elements and a judgement made about the impact of such loss on the outcomes of the project.

Control of data quality was wherever possible maintained by cross reference to material published in the public domain, and, where appropriate, previously audited by other bodies such as the National Audit Office.

As part of the data quality control process, data obtained was examined to ensure that it was representative of the true currently prevailing position. This was achieved by cross referencing to other concurrent (e.g. GLA) scrutiny processes, to determine that no inconsistencies were presented.

As a result of this process a layered network approach to data was used. This involved producing a source layer of information (my “hard” and “soft” information) and a judgement layer formed from the distilled information drawn out from the source information using the countable elements and the controlled vocabulary.

It was crucial to thoroughly audit this process to ensure that overlapping features of the information properly represented the source and did not obscure the source material. When the latter problem was encountered it was possible to use any additional data obtained to confirm the results obtained.

A substantial volume of more complex data (outlying information) was obtained than had originally been planned for. This arose as a result for example, of interviewees expanding their responses to the standard question set. A further database was established on top of the original database which enabled further elements judged to be both unique and new to be drawn out.

The aim of the study was to determine, evaluate and confirm areas of commonality between the varied agencies and formulate a new model which will be inclusive and effective, combining best practices, ethical considerations and financial probity.

As can be seen data was obtained from three sources – pre understanding, interviews and literature search. It was then benchmarked against each of the three data sets. Feasible and desirable organisational changes were then proposed and relevant conceptual model(s) constructed. This model was validated by reference back to the original interviewees working as a reference or focus group and a validated model produced. This model was presented (see Appendix A) at a national conference in 2005 to critical acclaim and upon completion of this project, papers will be submitted to at least one research journal.

Validity and Fitness for Purpose

Using the four testing criteria established by Yin (Yin 1994) of:-

- Construct Validity
- Internal Validity
- External Validity
- Reliability

The pilot study was used to determine validity and fitness for purpose and was reviewed accordingly.

Although this methodology could be criticised as being adversely affected by:-

- Observer bias
- Inability to obtain rigorous enough benchmarking
- The narrow nature of the field of study.

As Cohen (Cohen et al 2000) infer complete objectivity can rarely if ever be achieved in research with a social context Alveson & Deetz (Alveson & Deetz 2000) state “questions of determining which problems to study, the relevance of findings and the translation back to the subject’s would have always posed constitutive and value laden issues at the very heart of any “objective” research”.

Interview Schedule – Development and Piloting

Following the successful pilot process undertaken during July/August 2004 the substantive interviews were carried out over the six month period September 2004 to March 2005. Problems of diarisation frequently caused rescheduling and to assist in this process a variety of venues were employed, most Chief Executives wishing to meet at their own offices.

Piloting and Development

The research questions were derived from two sources:-

- i. Questions asked by Government audits used in developing Best Value Performance Indicators for Local Government and
- ii. The worker researchers pre-understanding of the complex TTEH environment.

The process commenced with a meeting between the Chief Executive of the Port of London and his Principal Finance and Development Officer.

This initial meeting was used as a pilot, and the research questions (shown at Appendix B) were posed one by one.

It soon became clear that the responses fell into several categories outlined below.

- a) they were already available in the public domain e.g. Aims & Objectives
- b) they could not be answered without reference to other documents e.g. maps and charts, legislation.
- c) they needed parameters e.g. periods for which the information was being sought, this was especially relevant to financial information.
- d) they needed clear definitions to avoid ambiguity e.g. Environmental Control Policy.

This pilot proved extremely valuable as, whilst the Research Questions were all deemed pertinent by both the insider/researcher and the organisations concerned, much more relevant information could be obtained by a carefully constructed preamble to the question being posed.

Such preambles took various forms such as:-

-

- Previous research (from Annual Reports and or websites) about Aims and Objectives led to posing questions such as “I see from your Annual Report for 2003 that your Aims and Objectives are stated as..... are these still extant.”
- Providing an outline plan of the area and discussing geographical boundaries jointly marking the provided map and/or making comparisons with maps demonstrated by the organisations concerned.
- Specifying the financial years for which information was required.

The Port of London Authority was revisited after the pilot initial visit and was sent in advance not only the questions, but also the parameters which tailored the information more closely to the study.

The improvements arising from the Pilot Study had the following benefits:-

- No surprises were sprung upon the organisation and thus anxieties over the process were allayed.
- Information in both electronic and hard formats was frequently previously prepared by the interviewees and passed to the insider/researcher at the meeting.
- The responses were more specific and fewer lacunae were identified.

The major problem encountered was the sheer volume of the material provided. For example the answer to one question (iii regarding legislation) by one organisation (the MCA) was provided in several carefully indexed lever arch files containing many hundred of thousands of words of relevant information.

The challenge of making effective use of the extensive volume of material derived was met by providing specific material storage and filing systems. Extensive reading and indexing, permitted more ready identification and subsequent access to the wealth of material available. Relevant portions of which were subsequently either scanned or manually inputted to an electronic database. The final version of this submitted document was largely drawn from that database.

Table 1**External Agencies**

Environment Agency
Port of London Authority
Marine & Coastguard Agency
HM Customs & Excise
Thames 21 (ENCAMS)
Kent Police
Essex Fishermens Committee
Port of Tilbury
Major Shipping Lines

Dept of Environment, Food & Rural Affairs
London Port Health Authority
Immigration Service (Home Office)
Kent & Essex Sea Fisheries Committee
Metropolitan Police
Essex Police
Kent Fishermens Committee
Thamesport
Tideway Users

Part Two

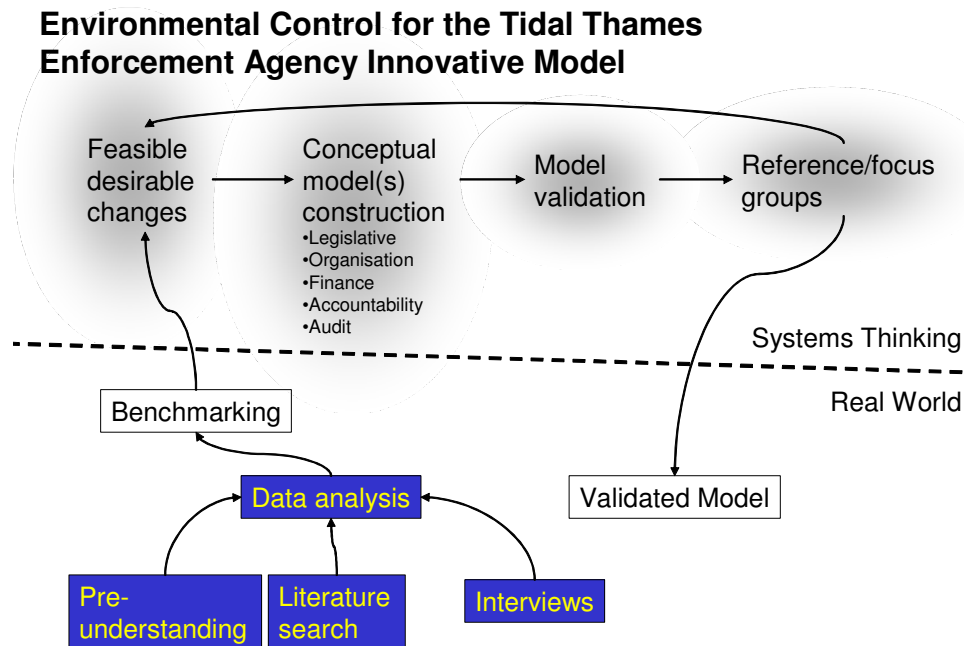
Background

Part Two

Background

In order to contextualise Thames Tideway Enforcement extensive literature search and data analysis was undertaken. This process was substantially aided by the practioner/researcher level of pre-understanding.

The elements of the research model dealt with in this Chapter are highlighted below.



Chapter 5

Historical Context

Historical Context

Environmental Health control on the Thames and its catchment have been a concern for at least 600 years but the enactment of The Public Health Act of 1848 resulting from the major changes in the social climate prior to and leading up to the Reform Act of 1832, gave real teeth to this process.

Prior to this time little if any effective Environmental Control and Public Health Legislation existed although Wisdom (1966) refers to a statute of 1388.

“prohibiting the throwing of dung filth garbage etc into ditches”.

In 1531 the Bill of Sewers empowered the Crown to establish commoners to care for land drainage, flood drainage, waste, erosion public health etc.

In 1535 at the behest of the Lord Mayor and Commonalty of the City of London a law was enacted.

“providing that a penalty of 100 shillings should be paid by any person annoying the Thames or casting dung into that river”

This legislation established for the first time the centrality of the Thames as a Public Health issue for London.

The 1531 Bill of Sewers was not repealed until 1930 when it was subsumed within the Land Drainage Act of that year.

Dracup (1973) gives an account of the early developments of water supply in London and states that it was not until 1829 that filterbeds for water treatment were first introduced by James Simpson in Chelsea.

Dr. John Snow's work (1849) in establishing the links between water supply and cholera were only formally recognised in the 1852 Metropolis Act giving powers to extract relatively unpolluted water from The Rivers Thames and Lee above their tidal limits. Whilst this enactment improved the quality of potable drinking water it also confirmed the use of the urban river as an open sewer for unwanted wastes, an issue previously identified in the legislation of 1535 some 300 years before.

Three Royal Commissions were set up during the decade 1865-75 to look at water supply, sewage disposal and river pollution. For Britain as a whole their recommendations were both far reaching and far sighted but sadly were largely ignored for almost one hundred years.

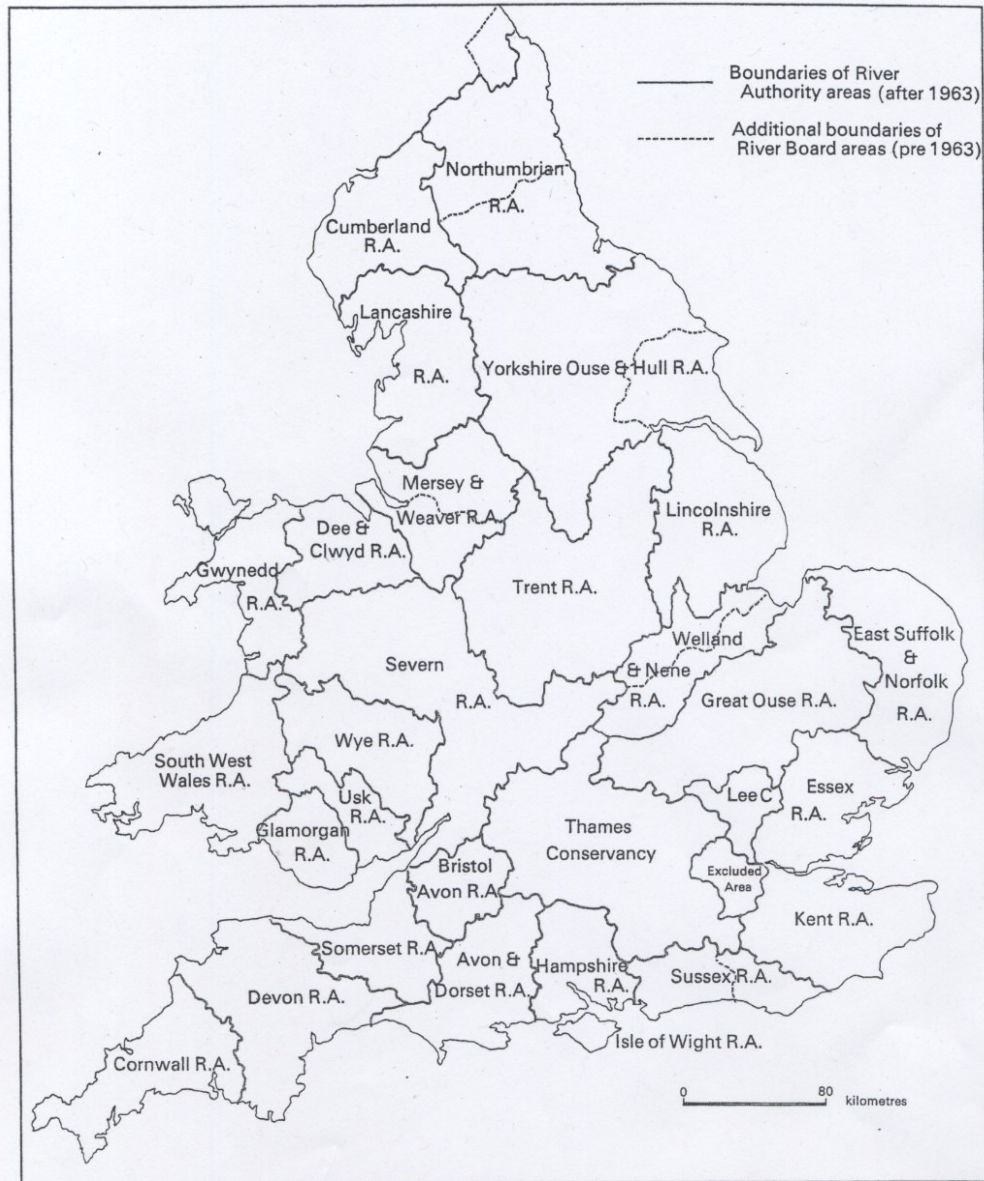
One of the proposals from all three Royal Commissions that control of water resources should be related to catchment areas, was truly revolutionary, but only passed into general law with the passing of the River Boards Act of 1948.

The Rivers Thames and Lee had earlier been addressed in this manner by the establishment of the Thames Conservancy by the passage of the Thames Conservancy Act in 1857 which vested in the conservator all title rights in the bed, soil and foreshore from Staines (110 miles above the tidal limit at Teddington) to Yantlet Creek, and empowered them to carry out all conservancy duties.

This Act represents a continuation of the “special” legislative status afforded to the Thames since 1535.

This Act was the fore runner of later national legislation, but it established the Thames as a unique “enforcement” area.

The Water Resources Act of 1963 established River Authorities, but again the Thames was excluded (**see Figure 2**).



The Conservators of the River Thames were responsible for underground water resources in the Excluded Area

The river authorities of England and Wales established by the Water Resources Act, 1963. Additional boundaries of the original river boards before 1963 are shown by broken lines.

Figure 2

The rise of the importance of local administration during the period of between 1871 and 1994 and the establishment of Local Authorities, led to the constitution of the Corporation of London as the Port Sanitary Authority by an Act of 1872. This name was changed to the London Port Health Authority by the London Government Act 1963.

The Thames conservancy powers were vested in a new body, the Port of London Authority (PLA) only after a Royal Commission failed to achieve its objectives in promoting the organisation in a Parliamentary Bill in 1903. It was not until an Act of 1908 that the PLA formally came into being. This Act also limited the PLA sphere of operations to the 69 miles of the Tidal Thames below Teddington Lock.

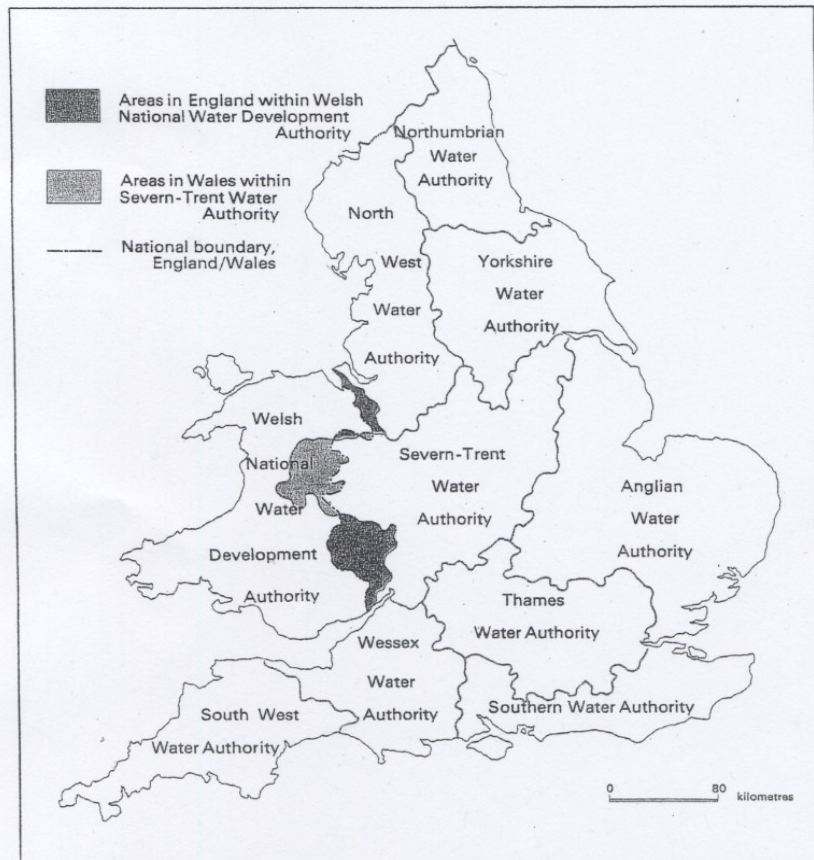
Responsibility for navigational upkeep for the waters above Teddington Lock remained with the Thames Conservancy Board which itself formed in 1948, relinquished its responsibilities firstly to the Thames Water Authority by the Water Act of 1973 (see **Figure 3**) then to the Environment Agency in 1974.

The Bill of 1531 and the Act of 1974 (as shown in Table 2) represent an unbroken line of specific legislative status for the Thames for over four hundred years.

In each case the Thames Tideway was either identified as a distinct area, or ignored due to specific local controls having already been enacted. This specific and unique, in United Kingdom terms, legislative status emphasises the special nature of this area as it has consistently been so acknowledged by Parliament for almost half a millennium.

The significance of the extensive legislative history of the Thames Tideway for this study, is two fold.

- i. It demonstrates that the Thames Tideway has been seen by decision makers as a complex and valued resource for centuries, and its worth is reflected in the legal efforts to protect both the Tideway itself and the environmental health of its users
- ii. It demonstrates the legislative complexity of the study area, and signposts the extent of difficulty that may be faced in preparing a responsive model.



The areas of the nine English regional water authorities and the Welsh National Water Development Authority, established by the Water Act, 1973.

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Figure 3

Table 2

A chronological list of the main Acts influencing Thames Tideway environmental Health Enforcement.

Short Title

Bill of Sewers, 1531
Thames Bill, 1535
Waterworks Clauses Act, 1847
Public Health Act, 1848
Metropolis Water Act, 1852
Waterworks Clauses Act, 1863
Gas and Waterworks Facilities Act, 1870 and 1873
Public Health Act, 1875
Rivers (Prevention of Pollution) Act, 1876
Public Health (Water) Act, 1878
Salmon and Freshwater Fisheries Act, 1923
Reservoirs (Safety Provisions) Act 1930
Land Drainage Act, 1930
Public Health Act, 1936
Public Health (Drainage of Trade Premises) Act, 1937
Rural Water Supplies and Sewerage Act, 1944
Water Act 1945
River Boards Act, 1948
Water Act, 1948
Rivers (Prevention of Pollution) Act, 1951
Clean Rivers (Estuaries and Tidal Waters) A, 1960
Rivers (Prevention of Pollution) Act, 1961
Water Resources Act, 1963
Sewerage (Scotland) Act, 1968
Local Government Act, 1972
Deposit of Poisonous Waste Act, 1972
Water Act, 1973
Control of Pollution Act, 1974
Environmental Protection Act, 1990

Chapter 6

Pressure for Changes

Pressure for Changes

The Thames was until the 1960's a thriving commercial highway, bringing the bulk of the of the nation's imports right to the heart of London.

Evolving freight handling technologies and the relentless drive to reduce both costs and staffing levels led to the development of ever longer vessels with greater draught and the complete containerisation of cargo.

Vessel size continues to increase and Post Panamax ships (i.e. those too large to use the Panama Canal between the Atlantic and Pacific Oceans) are now commonplace.

Larger vessels are unable by virtue of their draught to venture far upstream in the Thames, and the three factors of vessel size, containerisation and consequential massive workforce reductions led to the development of the downstream ports, and the closure of all the upstream docks for commercial use. Total freight volumes handled in the downstream Thames Tideway Ports (Purfleet, Dartford, Tilbury, Thamesport and Sheerness) exceeds that former handled by the upstream docks and continues to exhibit year on year growth in excess of 4%. The Thames Tideway (London) Port handles cargo in excess of 52 million tonnes per annum and is the largest port for non-fuel imports in the UK. Between 35% and 50% of all UK food is imported through London.

An economic impact study (PLA 2003) commissioned by the PLA and carried out by SQW Limited found that the Port of London generates 35207 full time equivalent jobs paid a total of £536m in wages and contributes £3.41 billion gross value added per annum to the London South UK regional economy.

Commercial Traffic on the upper Tideway is now largely limited to the transport of aggregate up stream and over 2 million tonnes per year of London's rubbish downstream, the use of tidal power with streams in excess of 3 knots makes this mode of transport very fuel efficient and eco-friendly. Though even this traffic is threatened by the closure of downstream landfill sites and the failure of the Government, despite a favourable inspector's report, to give Planning Permission for a downstream, river served, Refuse incinerator at Belvedere.

The decline in commercial use of the upper Tideway has been compensated by an increase in both Leisure and Tourism use.

International Cruise Ships of moderate size and therefore shallow draught regularly visit the Pool of London using the opening of Tower Bridge as a major tourist inducement. River excursion boats have substantially increased in number and ply between Hampton Court and Greenwich. Timetabled river bus services also operate between Gravesend and Westminster. Currently utilising Government transport subsidies these services use over

30 piers between the Thames Barrier at Charlton and Richmond and some of the 37 launching sites are used for amphibious pleasure craft

Leisure and recreational use has substantially increased in recent years with up to twenty thousand water sports enthusiasts using the Tideway on any one day. Although much of this use is seasonal, Leisure users can be seen on every day of the year.

The Tideway is also an important accommodation resource, there are currently several hundred houseboats registered by the London Port Health Authority, some of which offer substantial volumes of accommodation. It is possible that registered dwellings under report the number of people who live on the Tideway. Development of nearly every wharf on the Tideway for high cost dwellings means that the River is now a highway running through banks of high rise dwellings and a substantial population is in constant contact with the river environment.

The Tideway is also used for entertainment and there has been a substantial use in the period 1999 – 2004 of both ‘disco’ boats and events such as river pageants. These events cause considerable friction between the river users and the new dwelling occupiers with both day and night time noise being a source of continual complaint.

Major international rowing events are also now commonplace often attracting over 500 craft per team event and hundreds of thousands of spectators. The Tideway supports over 55 river based rowing, sailing and canoe clubs and 8 water sports centres; larger leisure vessels are served by 6 marinas in the reaches between Woolwich and Kew alone.

Many thousands of the public visit the Tideway each year solely “to be by the River” and there is currently public pressure for the reinstatement of Riverine Beaches in proximity of Tower Bridge. A trial of such a beach, carried out in 2004 outside the Festival Hall on the South Bank, met with much acclaim, but no disclosure of the associated environmental health risks.

The Tideway is also a major fishery resource and is one of the UK’s major Bass nurseries; it is also home to a wide variety of “red list” (i.e. endangered) invertebrates. The whole of the Tideway is a site of importance for nature conservation containing nine sites of Special Scientific Interest, three of which are designated European Marine Sites.

The non tidal river upstream of Teddington is used extensively for drinking water abstraction and following periods of low precipitation, substantial abstraction volumes can jeopardise the downstream flow volumes over Teddington weir, to the point where navigation would become impossible at some tidal states.

The Thames is one of the world’s most famous estuaries. It is the United Kingdom’s most commercially significant tideway and 12 million people live within its water catchment area (TEP 1996). The estuary is also internationally important for wildlife, supporting 115 different species of fish, its mud flats and marshes are home to 170,000 birds and

active seal colonies inhabit its more remote sand banks. It also supports the largest cockle fishery in the UK (some 10,000 tonnes per annum, representing 65% of all UK landings). The catch is actively and sensitively managed by the Kent and Essex Sea Fisheries Committee.

Responsibility for the health implications of the estuary falls to the London Port Health Authority (LPHA), a department of the Corporation of London. Responsibility for monitoring fish and water quality rests with the Environment Agency.

Water quality in the estuary is affected by its proximity to the London conurbation, the industry and housing of which all contribute to the pollution burden of the river.

The tidal excursion affecting the estuary is approximately 10-11 km and longitudinal mixing occurs due to the displacement by freshwater inputs and the action of tides. The Environment Agency states (EA 1997) that estuarine water is only slightly vertically stratified and at slack water there is little difference between salinity at the surface and that near the bed of the river. This, however, takes no account of the difference in latitudinal flow rates, since much of the estuary is relatively shallow and crossed by deep, well scoured, navigable channels which do have a different vertical stratification pattern. The saline incursion and stratification have a major impact upon the number and species of both fish and vertebrate life which inhabit the Tideway.

The river itself has a mean flow of 5,210 mega litres/day but for 5% of the time flow can exceed 17,114 mega litres/day. The average time for water to pass from Teddington (the upper tidal limit) to the seaward reaches of the estuary, varies between 3 weeks under high flow conditions to more than 3 months in low flow (554 mega litres/day) periods (TEP 1996).

Suspended solids enter the estuary from rivers, sewage and industrial effluent, and from the sea.

Large amounts of organic material are moved up and down the estuary by the action of the tide, the solids settling out as sediment onto the river bed, when critical velocities are reached usually at slack water. The material may then be resuspended during the ebb or flood tide. There is greater resuspension of sediments during spring tides than neap tides due to greater current velocities. The pattern of deposition varies throughout the estuary depending on tidal effects, river flows and the current shape of the river bed. In some areas deposition is greater than erosion, so that comparatively stable deposits of mud are formed, which can be colonised by spat fall of the edible cockle.

The process of deposition of fine grained sediments occurs in two principal ways:

- 1) Biological aggregation occurs as organisms ingest clay particles, then excrete faecal pellets up to 5mm long.

- 2) Flocculation occurs due to the molecular van der Waals forces. In freshwater this process is not possible due to the non neutralising effect of the freshwater itself upon the net negative charge carried by the clay particles. In salt water, however, the process is aided by the neutralising effect of free cations which permit flocculation to take place. This process is aided by water turbulence induced by winds and currents, Brownian motion, and by large particles 'capturing' small particles during collision in the settlement process (Fairbridge 1980).

These processes affect the longevity of polluting substances especially heavy metal and bacterial pollution. Aggregation, flocculation and re-suspension also enable the transport of pollutants.

Research into the presence of tributyl tin (currently a toxic component of ocean going ship anti-fouling paints) in Thames sediment, has demonstrated that the highest levels are found at the Teddington Upper tidal limit, some 90 miles from the sea. This could perhaps demonstrate the movement of sediment particles in the upward tidal flow (McEvoy 1999).

Discharges from sewage treatment works (STW) (EA 1997) are of staggering proportions with an *average* flow of 2467 Ml/d, with one plant alone (Beckton) contributing over 1000 Ml/d. During periods of drought the flow from Mogden works alone can be twice as large as the freshwater flow over Teddington Weir. The river in those conditions can be truly described as a huge sewage outfall and only the effectiveness of the STWs and the mobile oxygenating vessels prevent the river becoming a slow moving stagnant water body.

Atrill (1998) describes how the Thames Estuary has a long and famous history of pollution and recovery over the last 150 years. He outlines the main reasons for the decline in water quality of the estuary in the 19th. and 20th. centuries and relates how rehabilitation was undertaken and the consequences for fish populations within the estuary.

From the late 1970's the Thames was considered to have recovered with clear evidence for a diverse fish assemblage. Using data obtained over nearly 20 years from a power station intake, plus matched environmental data taken by the Environment Agency, (Atrill and Power 2002) further trends in the quality of the estuary have been assessed and the response of fish populations since the late 1970's have been modelled. Several aspects of water quality have continued to improve since the perceived recovery, including reductions in metal and pesticide levels, matched by an increasing diversity trend in the fish assemblage, Power 2002. Detailed models of most key fish population have been possible, indicating the environmental variables potentially controlling their movement in and out of the estuary. Of all variables, temperature appears to be the most important cue used by estuarine fish both in terms of seasonal movement and longer-term patterns, which seem to be dominated by an overriding climatic influence, Atrill (2004).

Little enforcement to moderate temperature of discharged water appears to have taken place in this period.

Another more minor, though perhaps not insignificant contribution to estuarial pollution load, is discharged ship ballast waters. Large tanker vessels may contain thousands of tonnes of water which was taken on board in polluted waters in foreign ports.

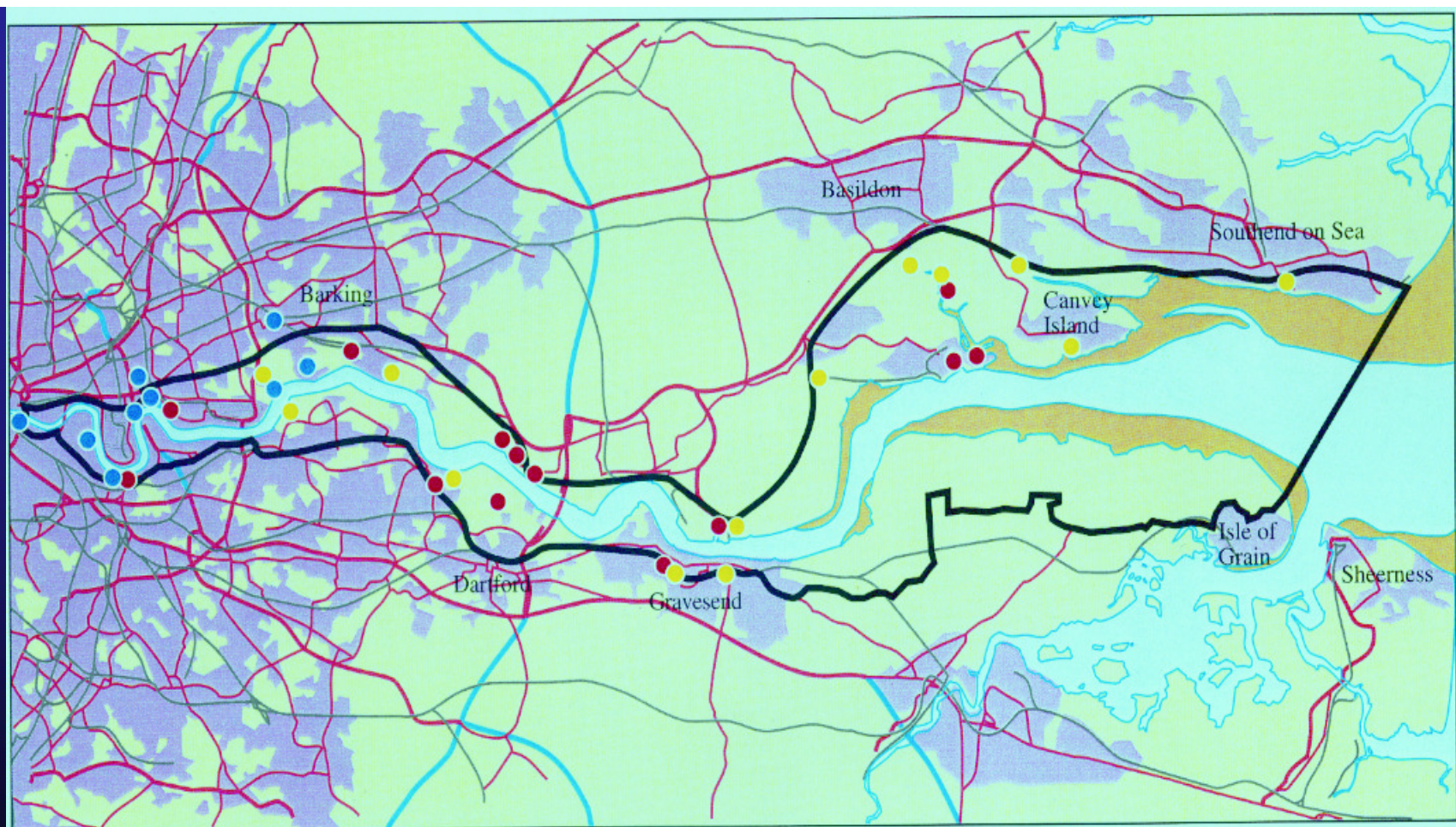
The potential for effects of discharge of this water on shellfish layings has been demonstrated (MSA 1998) and chemical treatment of ballast water is likely to become mandatory in the future (MSA 1998).

It has also been suggested (Watson 2000) that the importation of alien species with environmental health significance from tropical climates may have been effected by this process. Current research is being undertaken to determine the environmental health significance of a commercial fishery for Chinese Mitten Crab – one of such imported alien species.

Taking into account the total sewage laden flows and the major contributions direct to the estuary of STWs off Canvey Island and Southend (**see figure 4**), the impact of sewage discharge from Thames sources on cockle layings is likely to be substantial.

To this pollution burden must be added discharges into the River Medway, which joins the south of the estuary opposite the north bank STW discharge at Southend, but upstream of the major shellfish layings.

The wide variety of uses to which the Tideway is subjected create substantial tensions and pressures. Conflicts between leisure and commercial craft, residential and entertainment uses, endangered species and pollution, the need to sustain navigation whilst using water for potable purposes all need to be reconciled, and these complex interrelated problems can only be fully resolved by dedicated regulatory resources operating within an integrated legislative framework.



Discharges into the Thames Estuary

Sewage Treatment Works Discharges ●
 Industrial Discharges ●
 Combined Sewerage Overflow Pumped Discharges ●

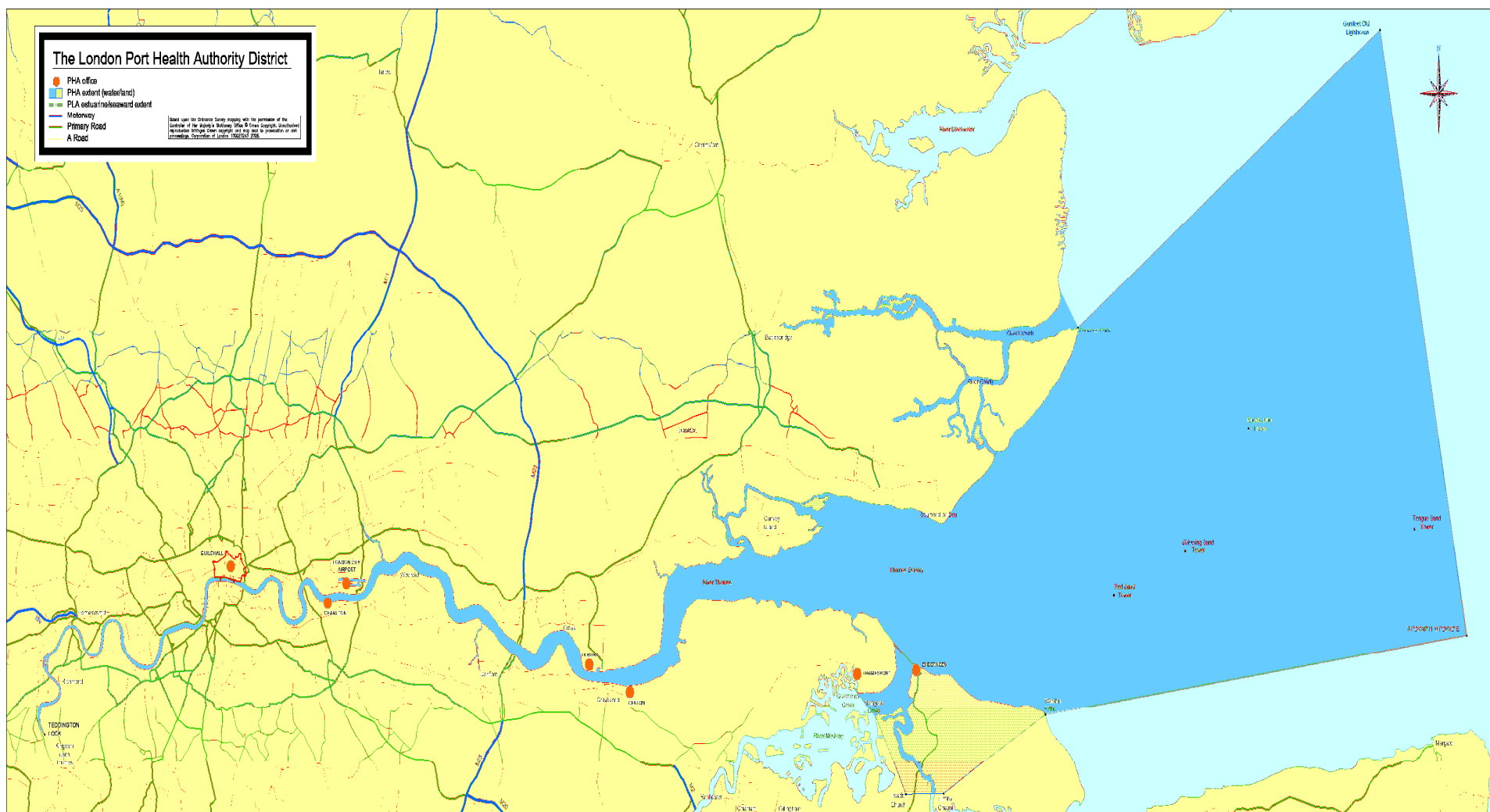


Figure 5

Chapter 7

Thames Tideway Extent Boundaries and Areas of Impact

Thames Tideway Extent Boundaries and Areas of Impact

The variety of agencies involved in issues related to Environmental Health enforcement for the Thames Tideway all operate within differing geographic boundaries. These are further complicated by the use of definitions which are not geographically precise, or by organisational internal structural area boundaries. None of the agencies involved operate to co-terminous boundaries.

The plan at figure 5 overlays all the organisational boundaries.

LPHA Boundary

- The LPHA District was originally detailed in a Treasury Minute of 1856 and amended by a subsequent Minute in 1883. The London Port Health Authority Order 1965 makes reference to the Treasury Minute of 1883. The district is largely coterminous with that of the original and subsequently extended Port of London (appointed for the purposes of enactments relating to Customs & Excise). The 'landward limit' which, is defined as a line drawn across the River Thames from a stone pillar erected by the Port Authority and the Thames Conservators at Ordnance Survey grid co-ordinates TQ 16361 71912 on the Surrey bank to the nearest point of mean high water level on the Middlesex bank (for administrative convenience this has been historically accepted to be Teddington Foot Lock and Weir).
- The current London Port Health Authority Order 1965 which came into effect on 1st April 1965 refers back to the, since repealed, London Government Act 1963 and re-established the Common Council as the Port Health Authority for the Port of London established for the purpose of enactments relating to customs or excise. Certain transitional powers have historically maintained previous rights, liabilities, etc., contained in former Orders and enactments, to the Corporation of London acting as the London Port Health Authority
- The 1965 Order confers on the Port Health Authority certain local authority functions under general Acts relating to public/environmental health and food (*and drugs*) over all waters, etc., and land within the gates of any dock, etc. A joint draft report dated 1964 refers to the then Ministry of Health view that the jurisdiction extended to 'all wharves and buildings thereon, both within and beyond any dock abutting upon the Port of London, as defined in the Treasury Minute of 1883.'

Thames Tideway Extent Boundaries and Areas of Impact

- The London Port Health Authority (Amendment) Order 1980 amended the 1965 Order by adding to the Schedule of functions certain provisions of the Control of Pollution Act 1974.
- The London Port Health Authority (Functions) Order 1991 assigned to the LPHA the functions, rights and liabilities of a food authority under the Food Safety Act 1990 and corresponding functions, etc., under Part I of the Environmental Protection Act 1990
- The former seaward limit of the Port of London is described as a line drawn from the pilot mark at the entrance of Havengore Creek in the County of Essex on a bearing 166° reckoned clockwise from the true north point of the compass to mean high water level on the Kent bank of the Thames. The district includes the islands of Havengore Creek (including Potton and Rushley Islands) and so much of the Creek and watercourse as extends from it to the town of Rochford.
- The Appointment of Ports (London) Order 1974 redefined the Customs Port of London to include the Southern shore of the River Crouch from Battlebridge in the County of Essex eastwards to Foulness point. It also took the previously included lower Medway out of the former Port of London to form the new Port of Medway, however, this area was retained by the LPHA as stated elsewhere by the City of London (Various Powers) Act 1965. The result of this change appears to be that for a time the Southern shore of the River Crouch from Battlebridge to Foulness Point, including that part of the River Roach to seaward of 'The Middleway,' lay outside the districts of both the LPHA and Maldon PHA. This situation was retrieved in 1993 when the LPHA with the agreement of Rochford District Council and the DoH became responsible for that area.
- The current seaward limit of the Port is defined as lines drawn from latitude 51° 37' 00"North, longitude 00° 57' 19"East (Foulness Point in the County of Essex) to latitude 51° 46' 05"North, longitude 01° 20' 32" East (Gunfleet Old Lighthouse) and thence to latitude 51° 26' 36"North, longitude 01° 25' 30" East and thence to latitude 51° 24' 55" North, longitude 00° 54' 21" East (Warden Point in the County of Kent).
- The London Port Health Authority (to the seaward limit of the Port of London aforementioned) is confirmed by Sections 6,7 and 8 of the Public Health (Control of Disease) Act 1984 and the since repealed London Government Act 1963. It is also constituted by Section 3(a) of the Food Safety Act 1990 as the Food Authority for the Port of London. However, it appears likely that, notwithstanding the saving contained in Section 8(1) of the City of London (Various Powers) Act 1983, a potential conflict may exist in that the limits mentioned above refer only to the original Port of London limits mentioned in the Treasury Minute of 1883

Thames Tideway Extent Boundaries and Areas of Impact

and the subsequent 1964 seaward extension, i.e. not including the lower Reaches of the River Medway.

- Section 22 of Schedule 15 of the Environmental Protection Act 1990 assigns to the London Port Health Authority the functions, etc., of a Local Authority contained in Part I (pollution control) and Part III (statutory nuisances) of the Act.
- The London Port Health Authority (Functions) Order 1991 appears to have addressed the problem of enforcement of the Food Safety Act 1990 and the Environmental Protection Act 1990 at the ports of Thamesport and Sheerness. However, doubts remain in regard to the enforcement of the relevant part of the EPA '90 in this area.
- From the bridge at Battlebridge at latitude 51° 37' 18" North, longitude 00° 34' 22" East on the River Crouch in the County of Essex, continuing eastwards along the line of mean high water level on the south bank of the River Crouch to Foulness Point at latitude 51° 37' 00" north, longitude 00° 57' 19" East in the County of Essex thence to a point at latitude 51° 46' 05" North longitude 01° 20' 32" East (Gunfleet Old lighthouse), thence to a point at latitude 51° 26' 36" North, longitude 01° 25' 30" East, thence to a point at latitude 51° 24' 55" North longitude 00° 54' 21" East (Warden Point in the Isle of Sheppey in the County of Kent).
- Section 8(1) of the City of London (Various Powers) Act 1973 confirms the extension of the LPHA jurisdiction seawards beyond the original boundary detailed in the 1883 Treasury Minute and as effected by Section 31 of the City of London (Various Powers) Act 1965 to the current seaward limit mentioned above and as delineated by the current Port Health Authority Order 1965, notwithstanding any future alteration to the Customs Port of London. The 1965 LPHA Order confers: -

Jurisdiction over all waters within the area to which it relates, also over the whole or part of the district of any riparian authority as may be specified in the Order, i.e. within the fence of any wharf, etc.

- Section 42 of the Local Government (Miscellaneous Provisions) Act 1982 amended Section 2(2) of the Public Health Act 1936 and Section 41 of the London Government Act 1963 and confirmed that the extent of the LPHA district, including the rights over ... 'either the whole or any part or parts of the district or districts of one or more riparian authorities (not being comprised in the Port of London) may be specified in an Order made by the Secretary of State.
- Reorganisation of the National Health Service from the 1970's to the present day has not materially affected the jurisdiction of the LPHA, with the exception that medical services which were originally transferred to the East London and City

Thames Tideway Extent Boundaries and Areas of Impact

Health Authority and thence to the North East London Strategic Health Authority then to the City and Hackney Primary Care Trust and a currently by the Health Protection Agency (January 2005).

- The Port of London Act 1968 (as amended) repealed and replaced the Port of London (Consolidation) Act 1920 and the Port of London (Extension of Sea Limit) Act 1964.
- The lower, including the seaward part of the LPHA district is immediately abutted on the south (in the County of Kent) by the Medway PHA, Faversham PHA and Whitstable PHA districts. The northern part of the LPHA district (in the County of Essex) is abutted by the Maldon PHA district.
- The Port of London Limits commence at the landward limit and extend down both sides of the River Thames at mean high water level to the seaward limit and include all islands, rivers, streams, creeks, waters, watercourses, channels, harbours, docks and places. Currently included are Hermitage Basin*; the Western Dock Canal system*; Shadwell Basin*, including Brussels Wharf Surrey Water*, Thames link*, Albion Canal*, Albion Dry Dock* and Canada Water; Greenland Dock, Steelyard Cut and South Dock; West India North Branch Dock, West India Centre Branch Dock and West India South Dock; Blackwall Basin and Poplar Dock; Millwall Inner Dock, Millwall Outer Dock and Millwall Cutting; East India Dock Basin; Royal Victoria Dock and Royal Victoria Pontoon Dock; Royal Albert Dock; King George V Dock; Albert Basin; Greenland Pier and associated jetties; Blackwall Pier; two jetties on either side of the entrance lock leading to King George V Dock; two jetties on either side of the site of the former entrance to Albert Basin; the jetty on the north side of Gallion's Yacht Lock entrance; Cory's jetty. It also includes the Ports of Tilbury, Purfleet Thames Terminal and Thames Europort.

* The above list includes a number of locations which, although no longer used for shipping purposes and having no access to the River Thames, were designated by Section 2 and Schedule 1 of the London Docklands Development Corporation Act 1994 as remaining part of the Port of London. Consideration will need to be given as to whether these should remain as part of the London Port Health Authority district.

- Although the ownership of a number of the enclosed docks has changed to British Waterways, the Royal Docks Management Authority and the LB of Southwark, many of these remain accessible from the river and continue to be used by vessels and craft and thus within the LPHA boundary.

With the cessation of cargo operations in the former London enclosed docks certain pragmatic arrangements were agreed with the relevant Riparian London Boroughs.

Thames Tideway Extent Boundaries and Areas of Impact

These locations therefore remain within the limits of the Port of London and where the waters of a dock are still accessible from the River (via operational lock gates) the waters and the immediate quay area (1metre - for water supply, pest control and sewage disposal) remain the responsibility of this Authority. Other non-port related activities became the responsibility of the relevant Riparian London Borough.

- Where the waters of a dock have become inaccessible, i.e. the lock gates have been
- sealed or, otherwise replaced by infill or, other permanent barrier, the whole of the former dock became the responsibility of the relevant Riparian Borough.
- With the development of London City Airport on the peninsular quay immediately adjacent to the waters of the Royal Albert and King George V Docks, the then Department of Health (DoH) agreed in 1987 that within the HMC&E approved area the LPHA should be the proper enforcing authority for public/environmental health, animal health and food safety related legislation. Subsequently, in 1989 agreement was reached with the L.B. of Newham that that Authority would monitor noise levels from waterborne activities and aircraft. Plans showing the current Customs Approval at London City Airport have been received.
- The LPHA district also extends at mean high water level up both sides of the lower Reaches of the River Medway to an imaginary line drawn from the south-east point of land westward of Coalmouth Creek, across the river to the westernmost point of land at the eastern side of Stangate Creek and then in a southerly direction to Iwade Church (OS grid reference TQ 9013 6795) then in a north-easterly direction to the former Elmley Chapel (OS grid reference TQ 9335 6800) on the Isle of Sheppey and then to Warden Point. This area includes the Ports of Sheerness, Thamesport on the Isle of Grain, Ridham Dock and Queenborough and certain other wharves used for the loading and/or discharge of scrap steel, manufactured steel products, fertiliser, etc.
- The district includes all HMC&E approved facilities used for the discharge and loading of goods imported by sea, including any land contained within the curtilage of any dock, wharf, jetty, etc., i.e. that contained within a fence providing temporary storage for those goods prior to the payment of customs duties, etc. Plans showing the Customs Boundaries of approved facilities on the south side of the River Thames and the lower River Medway have been received. Receipt of similar plans showing the boundaries on the north side of the Thames is still awaited but appears to be somewhat problematical despite a number of requests. The district also includes all non-approved berths; e.g. those used by other vessels, pleasure craft, tripping boats, etc.

Thames Tideway Extent Boundaries and Areas of Impact

Port of London Authority

The Port of London Boundary is less complicated. Following a Royal commission which reported in 1902 the Port of London Act 1908 was enacted, this transferred all the undertakings and powers of all the existing dock companies the functions and powers of the Thames Conservatory below Teddington and certain duties of the Watermen's Company to a new body. The Port of London Authority (PLA) seaward limit was formerly shown by a notional line between two stones.

The City of Crow Stone on the shore at West Cliff Essex and the London Stone on the Kent shore just east of the entrance to Yantlet Creek.

The PLA has jurisdiction, for those matters which it is empowered to enforce, over the Tidal Thames from Teddington Weir in the West to outer limits (defined as the Kent shore to a line drawn from Warden point on the Essex shore in the Thames Estuary in the East.

The PLA's pilotage responsibilities are further extended sea wards to include the main approach channels to the Thames, which it also maintains for navigational purposes, by dredging, providing lights, etc. Up stream of Southend-on-Sea the PLA owns much of the river bed and foreshore up to the high water mark. It is also a landowner of some areas of former docks, and maintains its own shore based marine facilities at Denton and Gravesend.

It has a southern boundary at the River Medway estuarial confluence along a notional line from London stone at the mouth of Yantlet Creek to just north of the Medway buoy in the estuary.

Marine and Coastguard Agency

The Marine and Coastguard Agency (MCA) have responsibility for the safety of all ships (and smaller craft) on all Tidal Waters. Safety responsibility for non tidal areas fall to relevant Inland Navigation Authority whose areas are not considered in this study. By virtue of a Merchant Shipping Notice (MSN 1776) UK waters are split into four groups.

The categorisations determine the waters not regarded as “sea” for the purposes of Merchant Shipping legislation (excepting marine pollution). The construction requirements and level of safety equipment to be carried depend upon the waters in which a vessel operates, i.e. Whether operations are confined to the defined categorised waters or if it goes to “sea”.

The four categories of waters are as follows:

- **Category A:** Narrow rivers and canals where the depth of water is generally less than 1.5 metres
- **Category B:** Wider rivers and canals where the depth of water is generally 1.5 metres or more and where the significant wave height could not be expected to exceed 0.6 metres at any time.
- **Category C:** Tidal rivers and estuaries and large, deep lakes and lochs where the significant wave height could not be expected to exceed 1.2 metres at any time.
- **Category D:** Tidal Rivers and estuaries where the significant wave height could not be expected to exceed 2.0 metres at any time.

These categorisations apply specifically to the operation of Class IV, V and VI Passenger Ships and also determine which waters are not regarded as “sea” for the purposes of regulations made, or treated as made, under Section 85 of the Merchant Shipping Act 1995.

Under the Merchant Shipping (Prevention of Oil Pollution) Regulations 1996 it should be noted that “sea” includes any estuaries or arms of the sea.

The physical area for which the MCA is concerned therefore in this study relates to the Tidal Thames and its navigable tributaries. The navigable tidal stretches of the Rivers Crouch, Roach and Swale, and the whole Thames Estuary.

Thames Tideway Extent Boundaries and Areas of Impact

The Environment Agency

The Environment Agency (EA) is the English and Wales public authority charged with some Environmental enforcement powers in England and Wales.

Its area of jurisdiction covers all the land mass discussed in this study and all rivers and inner estuaries. The Environment Agency remit for areas further offshore is not however clearly defined (EA 1974).

Summary

Real Commonalities exist for only two of the agencies London Port Health Authority (LPHA) and the Port of London Authority (PLA), in that they include all tidal areas (including tributary rivers and creeks) over the entire Thames from Teddington to the Estuary. The LPHA boundary however includes the land related to all working wharves, the lower reaches of the River Medway, the River Crouch and Roach in Essex and further seaward estuarial limit than the PLA. All geographical limits are enshrined in various legislation some referring to areas and other boundaries (such as Custom controlled areas) which have long ceased to exist.

The vast extent of this area must however not be overlooked. The Estuarial portion of the LPHA area of jurisdiction alone comprises an area in excess of 600 square miles. The Boundaries and responsibilities for the Agencies as outlined above are extraordinarily complex.

Chapter 8

Role of Professionalism in Tideway Enforcement

Role of Professionalism in Tideway Enforcement

Each of the various agencies involved in Tideway Enforcement can justly claim Professional status. The disciplines include

- Master Mariners
- Watermen and lightermen
- Life boatmen (full time)
- Port Health Inspectors
- Ecological Scientists
- Fisheries Scientists

Each of these various disciplines has a subset of support including clerical technical, engineering and laboratory staff. Each group appears to be jealously guard their own “turf” and there is little, if any, opportunity or indeed willingness to promote joint interdisciplinary function sharing.

This emphasis on professionalism is deeply embedded in a working culture stretching back for centuries, and may be seen to be a reason for the slow evolution of new working practices on the Tideway, especially those with a multi agency component.

Chapter 9

Part Two Summary and Commentary

Summary and Commentary

Part Two of this study places the work in a context and indicates the “uniqueness” of the Tideway in historical and legislative terms. It indicates the extraordinary diverse range of pressures to which the Tideway is subject and problems that pressures can cause. The geographical boundaries used when describing the Tideway are described and the discrepancies between the geographical legislative remit of various agencies identified. The potential negative impact on developmental enforcement initiative is discussed.

The Thames Tideway has a long and unique enforcement history and has often led the UK as a whole in promoting and implementing legislative controls. This may have been partly causative of some of the pressures on the Tideway in that both the current infrastructure affecting the environment and the current enforcement regimes reflect former situations and indeed were instituted to deal with issues, that either not longer pertain or have substantially changed and in some cases e.g. water quality, have sharply deteriorated.

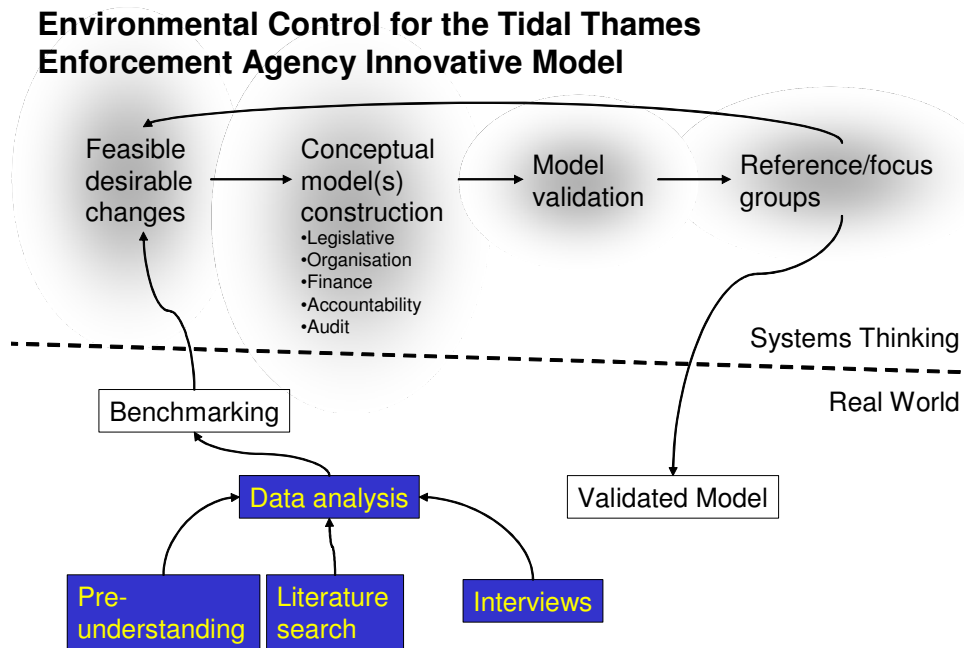
Jurisdictional Boundaries are not co-terminus and not properly understood by all the organisations involved. The historic nature of the legislative basis of boundary settling adds to the lack of clarity.

All of these issues may be perceived as drivers for change.

Part Three

Contemporary Scene

Part Three determines congruities of enforcement responsibilities between various agencies and attempt to benchmark both function and performance between the agencies.



Chapter 10

Thames Tideway Enforcement

Thames Tideway Enforcement

Thames Tideway Enforcement in terms of both legislation and enforcement agencies can best be described as a mosaic in that there are many fragments which only when drawn together form the semblance of a cohesive whole.

National and Local enforcement agencies have divided responsibility for environmental controls. With National Regulators (Environment Agency/Marine and Coastguard Agency) usually having responsibility for higher-risk activities. For other issues such as Food safety national regulators (Food Standards Agency, DEFRA) apply standards which are enforced by Port Health Authorities.

Whilst it appears that controls exist for most Thames Tideway environmental health problems there is a wide lack of knowledge about the powers duties policies and strategies of and between the varying agencies.

For example as recently as 10th. March 2004 a briefing note (personal communication) had to be prepared for the Environment Agency informing that they were not responsible for human health impacts of waterborne disease despite this having clearly been the responsibility of the London Port health Authority since at least 1875.

Thames Tideway Environmental Health enforcement covers a broad spectrum of control issues principally

- Infectious Disease
- Integrated Pollution
- Control of Noise
- Air Pollution
- Potable Water
- Fisheries
- Pests
- Waste Disposal
- Working and Conditions
- Housing Conditions

With the exception of food, noise and pests every other function has at least two agencies with legislative control input (summarised in Table 3)

No consistent data base exists to inform the various agencies of action taken or proposed although one Memorandum of Understanding proposes such a link. The LPHA are currently engaged in the development of a Geographic Information System, (GIS) for the whole of its area.

This lack of knowledge, both of the varying agencies' duties and powers, and of action taken, may lead to the possibility of duplication and/or inaction when any situation arises especially where responsibility for resolution is not clearly understood or accepted

The acceptance of a common GIS system detailing and co-ordinating actions taken would substantially aid such understanding.

Legislative controls themselves provide for a wide spectrum of penalties ranging from verbal warnings through improvement and Prohibition Notices to prosecution; in some cases the severity of incident carries unlimited fines. The impounding of vessels, control and closure powers are also available to a variety of Agencies. It appears (though as stated above there is no co-ordinated or consistent data set) that the incidence of the use of formal enforcement powers is very low. The LPHA for example has only served one Notice to control noise in the decade 1995 – 2004. Whilst during that same period has made several hundred informal verbal warnings.

There also appears to be a presumption against using legislative powers in respect of massive pollution of the Tideway by the sewage undertaking Thames Water. In 2004 there were some 60 incidences of large raw sewage discharges to the Tideway, volumes in excess of a million tonnes of raw sewage were discharged in at least one incident. Despite the risk to health demonstrated by LPHA/EA research (Coles 2004) no formal action was contemplated by any of the agencies involved.

All Public Bodies charged with EH Enforcement are encouraged to formally accept and abide by the ODPM enforcement concordat (2002). As far as can be determined only the LPHA and DEFRA have formally declared their adherence to this protocol.

Table 3
Enforcement overlaps

Thames Tideway Environmental Health Enforcement

	Imported Food	Pollution Control	Shellfish Control	Ship Boarding	Aircraft	Infection Disease Control	Food Hygiene	Houseboats	Registration of Boats	Licensing of River Users
Port of London Authority		X (oilspills only)		X Pilotage only				X Licensing	X For Tideway safety only	X Watermen and Lightmen
Marine and Coastguard Agency		X oil spills in non PLA Waters		X Safety Inspections					X For all sea going craft	X All sea going mariners
Environment Agency		X Riverwater and Part A Processes	X Shellfish Waters							
London Port Health Authority	X	X River water Noise Part B processes	Shellfish waters + shellfish	X Health and Safety Inspections	X	X	X	X Housing Conditions	X For all food and entertainment	X All food handlers and entertainment

Profile of Thames Enforcement Agencies

London Port Health Authority

Summary

The Corporation of London is in effect two Local Authorities (LA) i.e. the LA for the “Square Mile” and the London Port Health Authority, for the 94 miles of the Thames Tideway and all associated navigable tributaries.

In its latter role it has a very wide range of duties which are specified and performance monitored by a range of UK & EU Government Agencies. Finance comes via The Government Revenue Support Grant (RSG) but is not ringfenced and costs (net) £2.1M pa. (2004/5), income is also realised from inspection charges relating to imported Products of Animal Origin.

Governance

For its Port Health functions, policy is directed by the Corporation Port Health and Environmental Services Committee. This is constituted as a Ward Committee of the Court of Common Council. Each Ward of the “Square Mile”, thirty in number, supplies a Common Councilman to the Committee. Every Common Councilman (a non gender specific term) is elected for a four year term. The electorate for each of the Wards comprises both residential and business voters. The Common Council is unique amongst UK local government authorities in that it is not subject to party politics.

The wider remit of the Corporation includes ownership and management of many of London’s great open spaces such as Hampstead Heath, Kent & Surry Commons, Burnham Beeches and Epping Forest.

This latter area is a great tract of open space and forest situated in North East London and South Essex. It is administered by a Corporation Committee, which consists only of Common Councilmen and Epping Forest verderers, these latter being elected locally by Forest users.

History And Geographical Extent

In an Act of 1872, following a serious cholera epidemic, the Government decided to constitute the Corporation of London as the Port Sanitary Authority to relieve the Privy Council of this responsibility. Prior to this date the City had also been the Port Authority, a function now discharged by the Port of London Authority.

Profile of Thames Enforcement Agencies

The Public Health (London) Act 1936 changed the title to the London Port Health Authority (LPHA) and confirmed and extended the duties of the LPHA. The City of London (Various Powers) Act 1965 consolidated all previous legislation (Acts of 1920 and 1964) relating to the extent of the geographical area of responsibility and it remains approximately the same today, i.e. the whole of the tidal Thames downstream of the North Sea, Teddington Lock, the Rivers Roach, Crouch, Medway and Swale together with over three hundred square miles of the Estuary (see Part One). It includes the Docklands area and is therefore the Port Health Authority responsible for London City Airport.

Principal Duties

Imported Food

The three main ports of Tilbury, Thamesport and Sheerness handle between 33% and 50% of the nation's imported food. The LPHA is responsible for ensuring the food safety of all these imports, being the named enforcing authority under both UK and EU legislation. It is permitted to charge for these functions but only in respect of meat and meat products.

Pollution Control

The LPHA is a named enforcement authority for the Control of Pollution Act 1974, and the Environmental Protection Act 1990.

It licenses all Part B major polluting plants in the area and is responsible for the control of nuisance under the provisions of the Public Health Acts. Noise control patrols are a regular summer feature to control, the much complained of, disco boats.

Shellfish Control

The LPHA is responsible under the Food Safety Act provisions for the control of the Thames Shellfishery. This (mainly cockle) trade harvests up to 11000 tonnes per annum, the shellfish beds, some far out to sea, are regularly sampled and closed if found to be contaminated (all were closed for some periods during 2003 due to toxin contamination).

Ship Boarding

Under the provisions of the Public Health (Ships) Regulation all foreign going ships are boarded and inspected for infectious disease, food hygiene, clean water and pest control. Port medical officers are appointed to board ships and deal with sick passengers or crew.

Aircraft

Under the provisions of the Public Health (Aircraft) Regulations all aircraft are checked (by way of a pilot declaration) for infectious disease, disinfection (for insects) and food hygiene. Illegal food imports are also examined.

Infectious Disease Control

Under the provisions of a variety of Infectious Disease Control legislation (IDCL), the LPHA is required to ensure that as far as possible the area remains disease free. This entails enforcing both the ICDL and the Rabies Control Order, the latter by preventing animals being illegally landed; several animals are seized each year. Problems with polluted river water and ships drinking water are also closely monitored and acted upon when necessary

Food Hygiene

Under the provisions of the Food Safety Act all Food premises in Docks or on floating vessels are inspected.

Houseboats

The LPHA has performance levels set, and is responsible for, ensuring the enforcement of the Housing Acts on the hundreds of houseboats which are in the area.

Emergency Planning and Response

The LPHA is statutorily required to prepare exercise and review plans for civil emergencies involving the LPHA area. Acting as a Category One responder under the provisions of the Civil Contingencies Act 2004.

Administration

The LPHA has its headquarters at Walbrook Wharf in the City, just upstream of Cannon Street Railway Bridge.

It administers its imported Food functions from offices at Tilbury, Thamesport and Sheerness. It's River Division and its launches are operated from Charlton (just upstream of the Thames Barrier and from its own jetty and pontoon at Denton (Gravesend) it also maintains a small office at London City Airport.

Port of London Authority

Summary

The Port of London Authority (PLA) is the Harbour Authority for the Tidal Thames, it has an annual operating expenditure in excess of £32m per annum. Income is raised by a toll on each tonne of cargo using the port, by licensing fees and rents from an extensive land and property portfolio.

Governance

The Port of London Authority receives policy direction and governance from its Managing Board. This consists of a chairman, up to seven non-executive members and up to four executive members (currently consisting of a chairman six non executive and three executive members) appointed by the Secretary of State for Transport. It can therefore be classified as a quasi-autonomous non governmental organisation (quango).

History and Geographical Area

The PLA was established as a Public Trust under the Port of London Act of 1908 for the purpose of administering, preserving and improving the Port of London and Thames Conservancy.

These powers have been extended in subsequent Acts and Orders the last of significance being the area of control included the Tideway and tidal tributaries see part two chapter 7.

Principal Duties

Regulation of Navigation

By means of River By-Laws, General Directions, maintenance of navigational marks and lights. Guidance to both commercial and leisure users is provided by way of annual handbooks.

Licensing of river works and dredging

To maintain navigable channels at all times

Hydrographic Surveying

To maintain detailed charts of navigable channels

Registration and inspection of craft and hire boats

To ensure the safety of craft used on the Tideway.

Removal of sunken vessels and other hazards to navigation

To maintain clear safe navigable channels.

Profile of Thames Enforcement Agencies

Licensing of Watermen and Lightermen

To set and control the educational and practical ability of professional Tideway workers.

Maintenance of the Thames Conservancy

Maintenance of Richmond Lock and Weir.

Pilotage

To provide pilots for vessels entering or leaving the Tideway.

Emergency Planning and response to control all vessels carrying bulk hazardous cargos, and to prepare exercise and review port emergency plans and procedures.

Thames Oil Spillage

To maintain and deploy a fleet of specialised emergency craft in the event of an oil spill affecting the Tideway.

Administration

The PLA has its Headquarters at Bakers Hall in the City, overlooking the Pool of London. It maintains its navigational control from two centres at Gravesend and Woolwich.

Logistical support for its fleet of launches, hydrographical vessels and oil spill control craft is provided from Denton Wharf (Gravesend).

Marine & Coastguard Agency

Summary

An Executive Agency of the Department of Transport, The Marine and Coastguard Agency (MCA) is the United Kingdom Government organisation charged with ensuring the safety of ships and shipping together with control of discharges from ships. Finance is provided by the Department for Transport and administrative costs exceed £10M (2002/03). National staffing (2002/03) was 1165 plus over 3250 volunteer auxiliary Coastguards.

Governance

The MCA performance is monitored by an Advisory Board of six chaired by the Department for Transport Director General for Railways, Aviation Logistics Maritime and Security it includes the MCA Chief Executive and two external members. The Agency is run by an Executive Board of eight including two non executive members.

History & Geographic Extent

The Marine and Coastguard Agency (MCA) was formed in 1988 from the former Marine Safety Agency and Her Majesties Coastguard (HMC). Respectively those two former organisations had responsibility for the safety of shipping and seafarers and the prevention of Coastal Pollution, (MSA) and co-ordinating search and rescue at sea (HMC).

The MCA is responsible for all UK territorial waters and ships (of whatever nationality) using those waters. It has this role for the Thames Tideway and classifies the Tideway waters into two categories.

Category C above Gravesend and the Medway. This category includes Tidal Rivers and estuaries and large deep lakes and lochs where the significant wave height could not be expected to exceed 1.2. metres at any time and

Category D. below Gravesend.

Tidal rivers and estuaries where the significant wave height could not be expected to exceed 20 metres at any time.

Using the MCA definition of sea (i.e. Waters where significant waves heights can be expected to exceed 2.0 metres at anytime) the Thames Tideway becomes sea at a line drawn between the mouth of the River Colne in Essex and the Eastern mouth of the River Swale in Kent.

Profile of Thames Enforcement Agencies

This categorisation is used to specify the construction and of vessels and small craft and is therefore a constraining influence on the commercial use of non compliant craft in water categories for which they are not designed.

Principal Duties

Marine Accident Prevention

Checking that ships meet UK and International safety rules working to prevent the loss of life at sea.

Emergency Towing Vessel

Maintenance of four emergency towing vessels at key UK ports to come to the aid of large vessels.

Transport Appraisal Services

A control function of hazardous cargos (e.g. radioactive material) transported in or through UK waters.

Oil Pollution Preparedness response and Cooperation

To plan prepare and respond to incidence of oil pollution all relevant ports are subject to risk assessment.

Marine and Environmental High Risk Areas

To survey key UK coast areas to determine risk from threats or actual marine pollution.

Co-ordinating Search and Rescue

Co-ordinating all maritime emergency incidents both at sea and whilst using the coast line. It provides this function via the 999 emergency call system for the whole Tideway.

Administration

The MCA is administered from its headquarters in Southampton, but has over 30 regional offices. The Thames Tideway is administered for ship inspection functions from Sevenoaks in Kent. Maritime incident control is co-located with the PLA at the Port Control Offices at The Thames Barrier Navigation Centre – Charlton. This office co-ordinates all search and rescue events on the upper Tideway.

Kent and Essex Sea Fisheries Committees

Responsibility for the enforcement of UK and European legislation on sea fisheries fish marketing and the marine environment in England and Wales is the responsibility of the Sea Fisheries and Coastal Fisheries Food and Rural Affairs.

For the Thames Estuary below Dartford these responsibilities are partially discharged by the Kent and Essex Sea Fisheries Committee. This Committee set Annual quotas for catches.

Enforcement

The work of the Sea Fisheries Inspectorate (SFI) concentrates primarily on the monitoring surveillance and control of fishing activities within British fishery limits (adjacent to the coast of England and Wales, out to 200 miles) and is carried out both at sea and with shoreside inspections of landings. Defra employs the services of the Royal Navy's Fisheries Protection Squadron to carry out surveillance at sea including inspections, as well as civilian aircraft who carry out aerial surveillance of fishing activity, co-ordinating with the Royal Navy. The SFI also enforces legislation concerning fish marketing and the protection of the marine environment.

Review of Marine Enforcement

The outcome of the Government's Review of Marine Fisheries and Environmental Enforcement was announced by Fisheries Minister on 29th. December 2004.

During 2003 and 2004 in response to the national Audit Office report NA) 2004 on fisheries enforcement in England, a review was established to look at the marine inspectorate (SFI), Sea Fisheries Committees (SFCs) and other agencies with a view to making recommendations on the future organisation and structure of such activities. The review took account of recommendations made in the NAO report on Fisheries Enforcement in England and (when available) the response of the PAC to that report, as well as the report of the Prime Minister's Strategy Unit. The review also involved an extensive consultation process with the fishing industry, existing enforcement bodies, government departments, local authorities and other organisations with an interest in the work carried out by the SFI. The report of the review was published in July 2004. The outcome announced on 29th. December 2004 has been developed from the recommendations made in this report along with subsequent comments received.

The effects of this outcome are still (April 2005) unclear, and it is possible that the Environment Agency will assume the role of Sea Fisheries Committees, (SFC's).

Profile of Thames Enforcement Agencies

The Marine Bill, likely to be published after the May 2005 General Election, is likely to propose however that SFC's are modernised, their legislative base reviewed and modernised, and their enforcement role established in a combined legislative system.

The consultative process for the revision has not yet been made explicit and its eventual impact on environmental health enforcement on the Thames Tideway remains unclear.

Environment Agency

Summary

The Environment Agency (EA) is the UK Government organisation responsible for enforcing much of the European Union and United Kingdom legislation in respect of Environmental control. Finance is provided via the Department of Environment Food and Rural Affairs (DEFRA) but in common with the Marine & Coastguard Agency it is a “stand alone” agency ostensibly not subject to direct political intervention.

It has a staff of ten thousand and an annual budget running to eight hundred million pounds. The annual cost devoted to its Thames Region is a total of £27.5 million of which only £2 million is revenue expenditure related to enforcement. The balance consisting of £25.5 for flood defence.

The EA has a managing board of thirteen members including the Chairman and Chief Executive, all but one are appointed by the Secretary of State for Environment Food and Rural Affairs (the only exception being appointed by the Welsh Assembly).

The board meets only six times a year and delegates all management to the Chief Executive and Staff.

History and Geographic Extent

The EA was formed in 1974 by merging the functions of Previous River Authorities Waste Regulation authorities and related local government functions. Some of these functional distinctions are still apparent in the Agency. It has responsibility for the whole of England and Wales including its waterways. The role of the EA plays in coastal zones is not so clear as DEFRA. (2004) states that coastal zones management is divided between central and local government and agencies.

Principal Duties

The Agency has a wide range of duties, in respect of the Thames Estuary these fall into the following categories.

Flood Defence

The EA maintains the very complex and extensive flood defence system for the Thames. This includes the Thames Barrier, major flood barrages for all major tributaries and hundreds of miles of flood wall type defences. It regular tests these systems to ensure that the very real and increasing threat to London of flooding is met.

Although the Tidal Thames is currently well protected by the Thames Barrier and the tidal

Profile of Thames Enforcement Agencies

defences. The standard of protection is falling each year and will be 0.01% (a 1 in 1000 chance of being exceeded in any one year) by 2030. This is as designed. There is a project underway to look at what we should be done to maintain the existing level of protection until 2100, a programme not surprisingly called Thames Estuary 2100.

This is obviously very important in relation to Thames development, where although the standard of defence is comparatively high (and the probability of accedence therefore low) the consequence of excedence would be worsened by more building. It is estimated that the direct cost of flooding the floodplain would be about £30b plus the indirect costs on the economy of flooding the City. So new building will be more about the increasing risk to people rather than the financial risk attached. There are also a lot of flooding problems elsewhere in London which tend to get overlooked.

Water Quality

The EA is responsible for ensuring the quality of all waters in England and Wales and does so by monitoring and auditing waste water treatment regimes, sampling water sources, and monitoring fisheries. It does take enforcement action for non compliance other than in the Tideway usually against major polluters but sometimes against waste water treatment companies.

The impact of Combined Sewer Overflows (CSO's) is very detrimental. By way of illustration of the impacts on the environment, only 7 salmon have returned to non-tidal river in 2004. This is the second lowest figure in 25 years or so. Given that August is a key month for their return, the heavy rain in that month during 2004 and the consequent overflows of CSO's almost certainly had an impact.

These concerns need to be considered in context of both the impact of climate change and the consequences of development. The former is increasing in impact and the latter covers the whole gamut of sustainable construction, including energy efficiency, waste reduction etc.

Waste Management

The EA is responsible for ensuring the integrity of the England and Wales waste management system, by Regulating waste collection, transport, storage, and disposal. It does so by a regulatory system of waste transfer documentation, which should ensure traceability of waste from its production to its safe disposal. In this context it also regulates recycling by ensuring that recyclates are treated in the same traceability regime as waste. The Tideway is currently the major disposal route for Central London waste.

Pollution Control

The EA is the named enforcement authority for the Control of Pollution Act 1974 and the

Environmental Protection Act 1990.

It licences and controls all Part A major polluting plants in its area. These plants being considered to have a greater potential negative environmental impact than those Part B plants licensed and controlled by LPHA.

Water Resources

The EA is charged with ensuring the safety and management of water resources. It discharges this function by active water catchment management, licensing of abstractions from both surface and aquifer sources and managing river flows by engineering means.

Water supply/demand balance is a major concern. Thames Water leakage in London is about 30% of all water put into supply. Large sums of money are being spent on active leakage control but the levels of leakage have shown very little response to this activity. One reason is the age of the mains particularly in North London and the real solution is mains replacement on a major scale. This will take probably 30 years to arrive at a point where a major part of their network is in good condition. Such work will of course bring disruption to traffic, etc.

In the meantime in order to be able to be sure of providing a water supply in dry years. Thames Water propose a desalination plant at Beckton. This is environmentally less than ideal but is probably the only way of closing the supply/demand gap in the short to medium term. Permission for construction of this plant has been refused by the Mayor of London. Other resource developments that are of sufficient size (eg. New reservoirs) will take much longer to bring on stream. The EA are also seeking much better water efficiency in new homes and considering retrofitting such technology to older developments.

The EA is organised into 8 directorates each with a national director responsible

- Corporate Affairs
- Environmental Protection
- Finance
- Personnel
- Legal
- Operations
- Performance Innovation
- Water Management

The Director of operations – responsible for fieldwork has 11 directors reporting to him.

- National Operations Manager
- Head of Procurement

Profile of Thames Enforcement Agencies

- Head of Process Management
- 8 Regional Directors

Of these eight regional directors three have direct interest/responsibility for the Thames Tideway i.e. Anglian, Southern and Thames. Their boundary of interest is a midline in the Thames.

Actual fieldwork decisions are left to individual field officers and there is potentially huge scope for subjective decision making. For example the EA Technical Manager for the Thames Tideway has to consult 14 other EA staff in other parts of the organisation in connection with any decision. The desire to achieve action rather than process may sometimes overcome establishment protocol.

Headquarters of the EA Thames Region is at Reading, which is also the location of the Headquarters of Thames Water the water supply and Water treatment Company for London.

The EA Thames Region Technical Manager operates from Crossness in offices shared with Thames Water.

Chapter 12

Current Joint Working Arrangements

Current Joint Working Arrangements

There are a diverse range of liaison arrangements used between the agencies involved in TTEH enforcement.

i. LPHA/PLA

A regular but infrequent (biennial) meeting is held between the principal field officers of the two organisations, meetings taking place alternatively at the headquarters of the LPHA in Guildhall, and the lower River PLA base at Gravesend.

These meetings although having taken place for many years, only deal with matters of current common concern, but few outcomes relating to joint working, facility or resources sharing or participation in a formal joint arrangement have resulted.

Proposals for joint patrols, joint engineering maintenance, and joint building provision appear to have foundered, or at least have been indefinitely postponed.

ii. MCA/LPHA

Regular annual meetings are held between the Port Health Director and the Chief Coastguard, these meetings have directly resulted in a formal nationally adopted Memorandum of Understanding (MoU) between the MCA and the National Association of Port Health Authorities.

The MoU has the following objective:-

The agreements reached between the parties are intended to:

- Ensure that procedures are in place and implemented for the public health and safety of seafarers and passengers, and to prevent pollution from ships.
- Ensure the most effective use of resources and expertise, to provide a joined up approach.
- Promote awareness of food safety and food hygiene and public health standards throughout the Maritime Industry.
- Allow for the appropriate enforcement of all relevant legislation to ensure that effective systems of food hygiene are maintained aboard ships.

Current Joint Working Arrangements

Aim of the MoU

The principal aim of this MoU is to provide an administrative framework for meeting the above objectives and the enforcement of standards of food hygiene by the MCA and PHAs. It also:

- Summarises general guidance of working arrangements

Sets out the protocol for the exchange of information, joint advice, documentation and any education initiatives.

- Outlines methods of dealing with emergency procedures

The joint arrangement appears to be working well, and regular joint field staff training sessions have resulted in real improvements in single visit procedures and a reduction in duplication of effort. The MoU specifically addresses the joint use of enforcement powers, and after an earlier debacle now appears to be working well.

EA/MCA

The EA and MCA have a formal MoU dealing with responsibilities in the event of oil spills. This appears to work well nationally but does not readily fit the Thames Tideway as the oil spill action plan is operated by the PLA acting as the Thames Oil Spill Clearance Association (TOSCA)

MCA/PLA

The MCA now operate the same level of Search and Rescue (SAR) co-ordination role for the Thames Tideway as they do for the rest of the UK Maritime environment. The PLA is the navigational safety body for the Tideway and carried out the SAR function until the outcome of the Marchioness Disaster Enquiry recommended that the MCA assume responsibility. The MCA operate from a PLA office which is the Thames Barrier Navigational control centre.

EA/LPHA

Repeated attempts have been made to establish regular liaison meetings between these two organisations but these have foundered. Some joint use of resources has occurred, but this has not been formalised and currently appears to be discontinued.

Whilst previous outcomes have involved joint scientific research projects; currently no further meetings are planned. Despite assurances from the three EA Regional Directors concerned no discussion has taken place about working up joint policy initiatives, resource sharing or future research.

Current Joint Working Arrangements

It is a tribute to the local field staff that relationships on day to day working issues remain harmonious.

EA/PLA

Meetings between these two agencies are arranged on an ad-hoc – demand led basis, often on matters of national strategic importance, such as the provision of new major ports for the UK. There is however no formal regular liaison mechanism, on joint enforcement issues.

PLA/TOSCA

The PLA is host organiser/provider to the Thames Oil Spill Clearance Association, which is set up to deal with accidental oil spills. The PLA provide maintain and staff a fleet of specialist craft and associated equipment. The Association is funded by a toll on every tonne of oil imported. Liaison with all relevant agencies is well established and works well.

PLA/MCA/Metropolitan Police

A formal MoU has been established in respect of day to day Port Security issues, emergency response and Search and Rescue co-ordination. Although in need of updating this arrangement appears to be working well.

Chapter 13

Current Policy Making

Current Policy Making

All of the agencies involved in TTEH have stated policies and whilst these are not inimical they are certainly not co-ordinated.

This can be partially explained by the differing legislative roles of the organisations but appear mainly to be the result of inherent cultural differences and drivers.

The PLA for example has as its principal driver the need to sustain a viable commercial port, other considerations whilst accepted as having importance, do not benefit from the same level of organisational attention.

The Environment Agency in contrast have policies set nationally, although these may be partially modified by decisions taken by the Regional Environmental Policy fora. In practice policies affecting day to day enforcement are made on an ad-hoc basis by the case officer dealing with the particular issue. Given that the EA organisation offers the possibility of up to six different case officers dealing with a single issue the possibility exists of inconsistent policy creation and implementation.

The Marine and Coastguard Agency have consistent policies applied nationally, although application of the Memorandum of Understanding with the LPHA has not yet been fully actively implemented.

The London Port Health Authority has consistent policies which are exclusively for TTEH and are reviewed and updated on an 18 month cycle.

The Kent and Essex Sea Fisheries Committee have clear and unequivocal policies but the uncertainties surrounding the reorganisation of this service make the future both of this existing policy making fora, and of the direct preparation and application of policy solely to the TTEH less clear for the future.

Thames Water has clear profit led policies dictated by its German Owned parent company. Some of these are at odds with the enforcing organisations.

All the foregoing information leads to the inescapable conclusion that the TTEH enforcement is dealt with in a fragmented and inconsistent manner. All of the organisations involved approach the policy making process in a different ways.

Chapter 14

Financial Performance

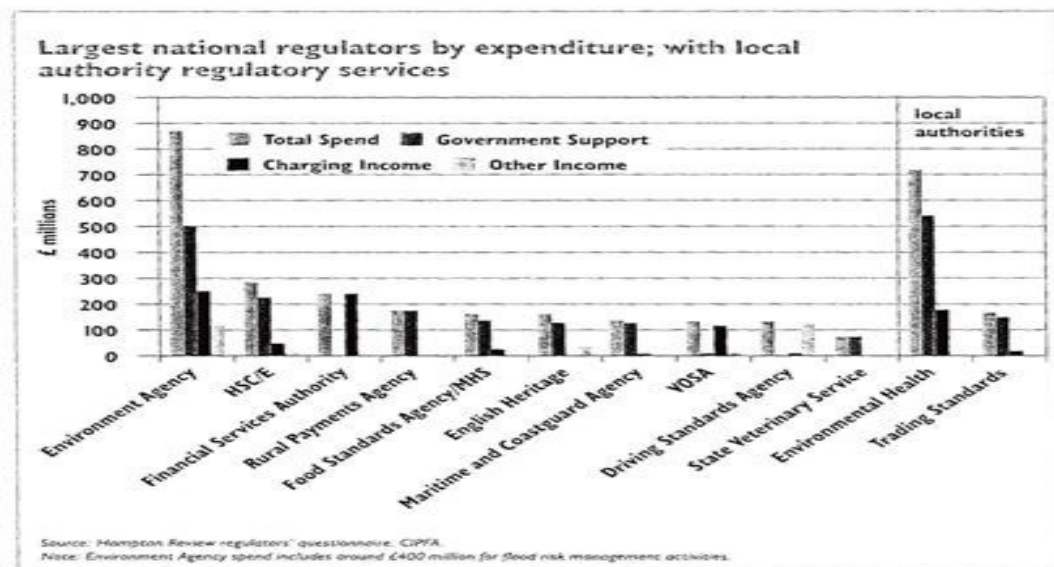
Financial Performance

Costs of regulation fall into two groups

- Policy costs i.e. those costs required to meeting the legislative demand.
- Administrative costs i.e. those costs incurred by either the regulator or the regulated in initiating sustaining and meeting the legislative demands.

HM Government have been struggling with identifying and quantifying these latter administrative costs. It is difficult to measure the costs of administrative burdens, including as they do the costs both of the regulatory agencies and those being regulated. The Treasury Better Regulation Task Force (BRTF) was commissioned to examine this problem and have published a report (Better Regulation Task Force 2005) which discusses a methodology for calculating the overall cost of regulation. A consequent aim will be to set a target for reducing that cost.

The Hampton Report (2005) was set up to streamline and improve the UK's Regulatory and enforcement regime. It investigated the expenditure of the largest national regulators and the outcome is shown at **Figure 6**. The environmental health officer time allocation to Port Health functions as shown in **Figure 7** is the only reference to Port health in the report.



The division of responsibility between national and local bodies varies. In certain areas, such as some environmental regimes, responsibilities are split between national and local regulators, with national regulators having responsibility for higher-risk activities. In other areas, principally health and safety, local authorities enforce the regulations on some businesses, and national regulators enforce the regulations on others. Finally, for issues such as food standards, national regulators set standards and local authorities enforce them.

Figure 6

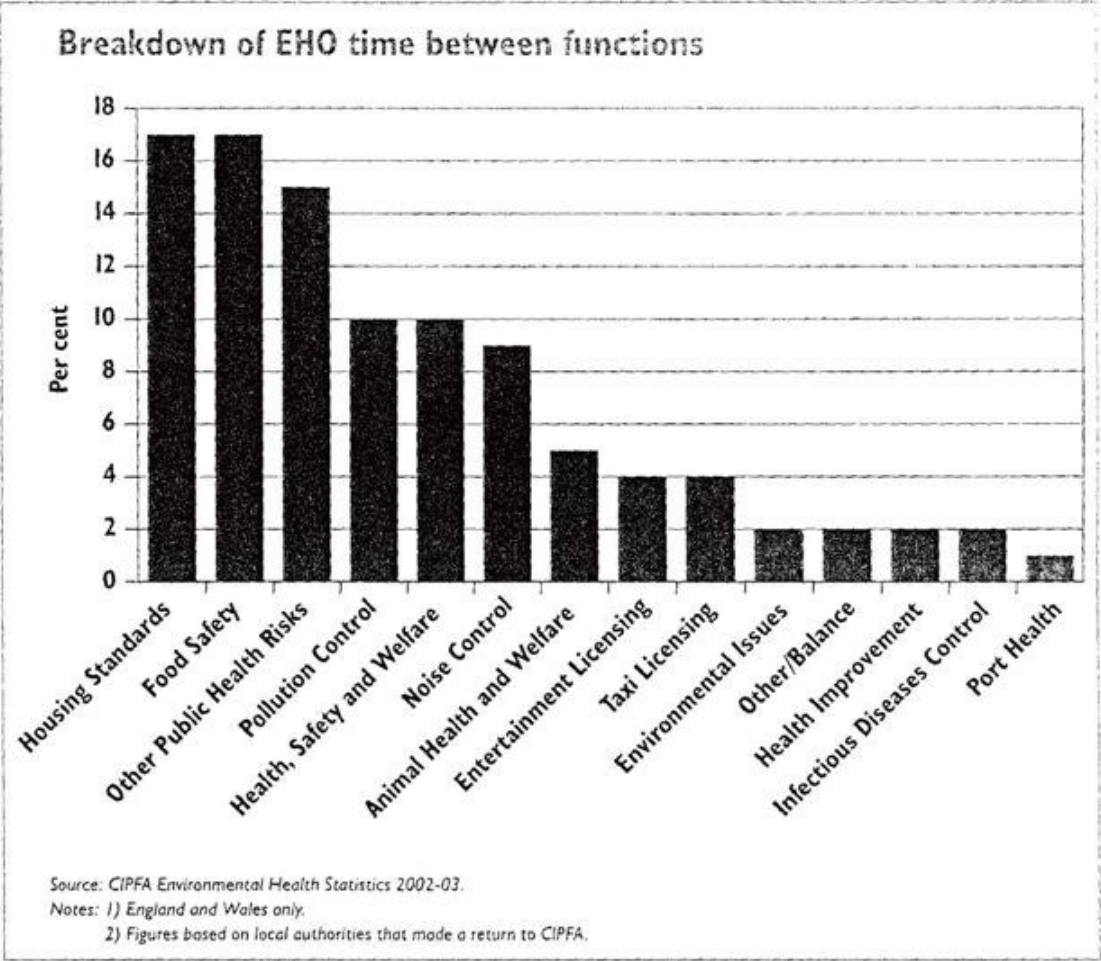


Figure 7

None of the Agencies involved in Thames Tideway Environmental Health enforcement maintain accounting systems which permit identification of the real local costs of such activity. Whilst overall administrative costs for functions all undertaken are explicit it would require substantial resources to determine those elements of cost which fall to this function. It is doubtful whether the BRTF formula can be usefully applied to this task as it was designed for an entirely different purpose.

If one were to undertake such a detailed investigation the following issues would need to be considered

Total staffing (including pensions etc.)

Buildings

Transport

Vessels

Infrastructure support

Policy making

Consultancy

Publicity

Communications

Costs of democracy

Since currently all of these issues are closely intertwined with other activities the complexity of dividing true costs is considerable.

If a new regulatory/enforcement body were to be set up it would however be possible to accurately cost expenditure required, using bottom up accounting techniques.

Part Three Summary and Commentary

Summary and Commentary

Current Thames Tideway Environmental Health Enforcement presents an extremely complex and sometimes confusing picture with four agencies all operating to different policies, differing agendas, differing resource levels, differing interests and differing commitments potentially involved in any one issue.

There is widespread ignorance between the various agencies about each others roles and liaison arrangements are fragmentary, frequently ill defined and in some cases non existent.

No attempts have been made to achieve an overarching inclusive policy stance to deal with sometimes crucial issues affecting the UK's premier waterway.

This opens the possibility of both inaction in the face of a problem, as each agency may consider the problem and its resolution to be the responsibility of another.

There appears to be no consistency of approach in relation to formal enforcement, and an apparent reluctance to take legal action for really major infringements. This despite such action being taken by either other similar organisations or indeed the same agencies for identical problems elsewhere in the UK. Funding for the organisations is provided from three major sources:-

- Government Grant
- Rate borne
- Service charges

No attempt has been made to identify or implement any form of joint working or synergy between the agencies which could yield both logistic and financial benefits whilst at the same time producing a coherent integrated and effective enforcement regime.

The boundaries within which the four agencies operate are not consistent which incurs further negative inter agency effectiveness penalties as yet more legally empowered bodies, or differing regional divisions of national agencies enter the liaison framework.

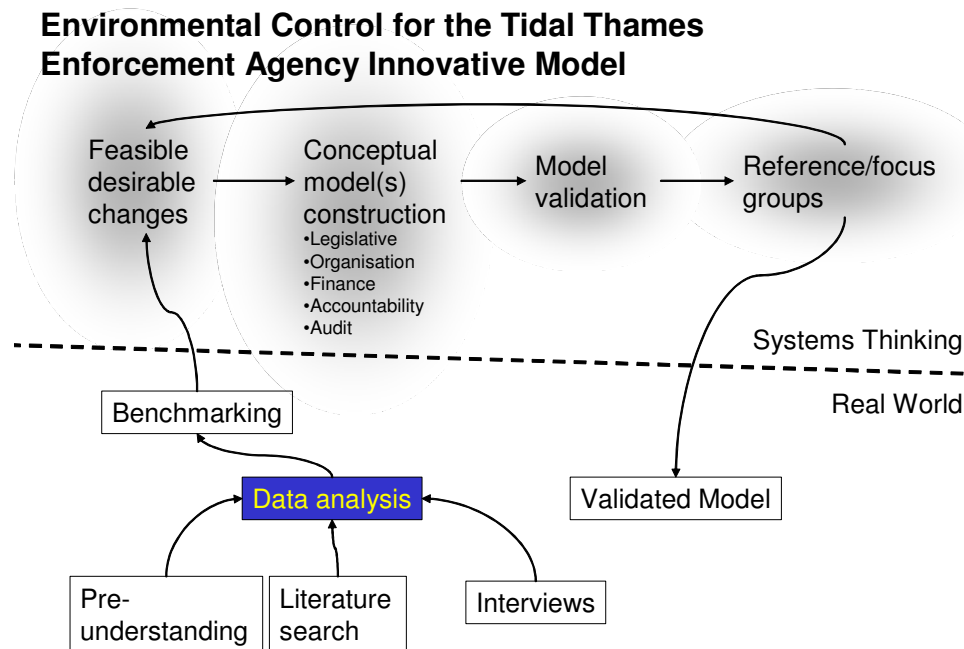
There is a widely differing view of the necessity to engage in joint working arrangements and what can only be termed "tunnel vision", policies operated by some of the bodies involved.

Part Four

External View and Impacts

As part of the data analysis process Part four examines the impacts upon TTEH enforcement of the UK Government, the European Union, Non Governmental organisations and business. Differential enforcement strategies are also discussed.

The elements of the research model dealt with in this Part Four are highlighted below



Government View of Enforcement/Regulation

Government View of Enforcement/Regulation

The UK Government commissioned an investigation into the agencies who undertake enforcement/Regulation. This investigation was led by Sir Philip Hampton (Chairman of Sainsburys PLC) who was charged with streamlining UK regulation and reducing the regulatory burden on business.

The investigation took evidence from some 320 organisations and was completed in January 2005. The consequent report (The Hampton Report) was released on the 7th. February 2005 – by the Chancellor of the Exchequer as part of his 2005 Budget statement to Parliament.

The Report advocates rationalising 35 national regulatory agencies into nine. It proposes a new consumer and trading standards agency, to set policies – as done for food by the Food Standards Agency – and national inspectorates for agriculture and animal health.

Under the plan, the Health and Safety Executive will absorb the Coal Authority, the Engineering Inspectorate, which is responsible for overhead power lines, the Adventure Activities Licensing Authority and the Gangmasters Licensing Authority.

The Food Standards Agency will take on the work of the Wine Standards Board, becoming responsible for the quality, labelling and standards of wine sold in the UK. The FSA may also take on some of Defra's regulatory functions, alongside the Environment Agency.

The report also proposes a national regulatory forum, a partnership between government departments, national regulators and local authorities working under a better regulation executive.

The review has recognised the generally high standard of regulation carried out by LA's on the basis of sound principles of risk assessment.

Some of the report's finer detail, especially relating to reducing the burden of regulation, may shift the burden from the regulated to the regulator. Local authorities already struggle with the administrative burden of regulation. The proposals for additional monitoring may simply exacerbate the situation.

Chancellor Gordon Brown, who commissioned the Hampton report said findings had been accepted 'in full' and would be implemented over the next four years. The report promises a million fewer inspections each year for businesses meeting high standards, (a reduction of a third) but tougher penalties for companies breaking the rules.

It also suggests relating fines to company turnover, the use in some cases of administrative penalties for businesses, and the creation of more award schemes for companies as piloted by the FSA.

The review's recommendations

- To entrench the principle of risk assessment throughout the regulatory system so that the burden of enforcement falls most on highest-risk businesses, and least on those with the best records of compliance.
- ensure that inspection activity is better focused and reduced where possible.
- making much more use of advice.
- substantially reducing the need for form filling
- applying tougher and more consistent penalties.

The review affirms regulatory independence and

- sets out a number of core principles of effective regulation
- it proposes substantially reducing the number of regulatory bodies with which businesses has to deal;
- makes proposals to strengthen regulators' accountability for implementing the approach recommended in this report, suggesting a more prominent role both for the independent National Audit Office and for Parliament;
- ensure that regulators are more business-focused in the way they operate, and that they take more account of businesses views and needs;
- coordinating local authority regulatory functions
- forming a new Better Regulation Executive

It estimates that its proposals could

- Reduce the need for inspections by up to a third, which means around one million fewer inspections, and
- Reduce the number of forms regulators send out by perhaps twenty five per cent.

In order to reduce regulatory costs

- regulators should follow the principles of regulatory costs the review's principal recommendations are that:

Government View of Enforcement/Regulation

- regulators should follow the principles of regulatory enforcement listed in the report.
- risk assessment should be used comprehensively by every regulator;
- regulators should judge the effectiveness of their advice by monitoring business awareness and make on-site advice visits and tailored advice available to businesses;
- regulators should reduce the number of duplicated data requests
- every Regulatory Impact Assessment should include an assessment of the practicality of enforcement;
- the Penalty regime should be based on managing the risk of re-offending, and the impact of the offence.
- companies should be given early warning before enforcement action
- regulators should be structured around simple, thematic areas, in order to create fewer interfaces for businesses,
- thirty one national regulatory bodies should be consolidated into seven, with individual regulators covering the entire scope of environment, health and safety, food standards, consumer and trading standards, animal health, agricultural inspections and rural and countryside issues;
- a new consumer and trading standards agency should be set up
- all regulators should ensure they have a performance management framework in place
- no new regulator should be set up if an existing regulator is able to carry out the task effectively;
- the accountability of regulators should be increased through suggesting enhanced Parliamentary scrutiny.

Despite extensive research and consultation being carried out by the Reports authors no specific references to the co-ordination of agencies involved in Thames Tideway Environmental Health enforcement were made in the Hampton Report.

The Hampton Report afforded the UK Government a unique opportunity to review Thames Tideway Enforcement and provide an improved integrated regime, with consequent benefits.

Government View of Enforcement/Regulation

Whilst it did mention several of the agencies involved in TTEH enforcement these references were all in other contexts.

If the recommendations and core principles outlined in The Hampton Review were applied to TTEH enforcement the gains expected of other rationalised agencies could also be achieved for the Tideway. This would apply especially when considering, costs, duplication of effort, risk assessment, and managing the interface with those regulated.

The omission of TTEH enforcement is in this context regrettable.

Role of the Greater London Authority and Non Governmental Organisations

Greater London Authority

The Greater London Authority is a unique Local Authority in that it has overarching powers relating to some strategic service provision, principally Planning and Transport, in the Greater London Area. It discharges the transport function through a separate executive arm – Transport for London (TfL) – the GLA’s only service provision.

It is an elected body having a directly elected Mayor and directly elected Members collectively called the London Assembly.

The Act which enabled the GLA’s formation empowers the Mayor to “co-operate with other public authorities or bodies or to co-ordinate or facilitate the activities of such authorities or bodies on a London wide basis”.

The Assembly also has Scrutiny Powers to examine issues affecting service and infrastructure for London, and in 2004 carried out a scrutiny exercise into sewage pollution of the Thames and the role of the Environment Agency and Thames Water. It subsequently made a number of recommendations.

On the 21st. April 2005 the GLA through its Transport Committee structure carried out a scrutiny of the Port of London Authority and explored the following issues.

- What are the structural issues surrounding the PLA including its status, responsibilities, budgets, objectives and priorities?
- What are the organisation’s corporate governance arrangements including an understanding of the appointment of its members, internal management arrangements, financial accountability and equalities policies?
- How is the management and audit of the PLA conducted in relation to performance monitoring, external auditing arrangements and independent complaints procedures?
- What is the range and effectiveness of the partnerships within which the PLA operates including its relationship with the Mayor, TfL and GLA, its relationship bodies and stakeholders?

The Assembly after studying much written evidence and cross-examining witnesses concluded that the PLA does work closely with a number of London organisations and groups to manage the safe navigation of vessels, ensure the river environment is adequately protected and promote activities along the Thames.

Role of the Greater London Authority and Non Governmental Organisations

But the Committee felt that the PLA's Board is not representative of a cross-section of river dwellers and users. Board Members are appointed for their nautical expertise however the Committee believes people who live and work along the Thames and use the river for leisure and transport should have a greater say on strategies to boost activities on the water. Apart from reporting accounts to Parliament, there appears to be very little public scrutiny of the PLA.

Roger Evans AM, Deputy Chair of the Transport Committee, said: "The River Thames is a key resource for moving Londoners, tourists and cargo through the capital. But it is important for residents and those who use the Thames for work, rest and play to have more say in its future. The Committee is aware of the safety and environmental issues that are unique to this river, and the expertise needed to ensure that Londoners can use it safely. But we are not convinced this should mean communities are excluded from the decision-making process".

The PLA conducts most of its business and generates most of its income from its area of jurisdiction downstream of Dartford Creek the outer London boundary and therefore presumably outside the GLA sphere of responsibility.

Assumption by the GLA of any powers or duties of the PLA would be a complex matter involving primary legislation and intricate financial allocation processes and would in any event only apply to the relatively less used upper Tideway within the Greater London Area.

Non Government Organisations

River Thames Society

The River Thames Society (RTS) is a non governmental organisation (NGO) which purports to represent the voice of all members of the public interested in the Thames.

It shares concerns that there is currently not one organisation responsible for the promotion, management, or marketing of the River Thames as a whole, it states that The Environment Agency has done excellent work with its Thames Ahead initiative, which is helping to market the non-tidal Thames (www.visitthames.co.uk).

Thames Ahead has brought many partners together to form the River Thames Alliance, which is about to publish a Waterway Plan for the non-tidal Thames. The plan calls for Coordinating planning between councils on matters of river front development, and protecting and promoting access, transport and open spaces;
by

- Protection of habitats and the environment for the future; More and better riverside leisure facilities such as moorings toilets and tourism information, making the trip to the river a more enjoyable experience;
- Plans to regenerate old industrial and working sites;

Role of the Greater London Authority and Non Governmental Organisations

- More cost efficient promotion of the river, boating and leisure to encourage more visitors and support local businesses.

The tidal Thames however has no such support. The RTS is calling for the Thames Ahead model to adapted for the tidal Thames.

In order for this process to commence RTS are undertaking a Tideway facilities baseline audit assessing the availability and condition of the following facilities.

- | | |
|---------------------|----------------------------|
| • River Access | • Pump out facilities |
| • Temporary mooring | • Chandlery |
| • Fuel Stations | • Boat lift |
| • Marines | • Training and instruction |

Whilst the RTS have in the past been a vocal lobbying group for Environmental Health issues, current concerns appear to relate more to Tideway infrastructure.

The RTS publication The Thames Guardian is widely read by the Tideway community and is used to promote RTS views.

Thames Salmon Trust

The Thames Salmon Trust is a charitable organisation which is currently re-organising itself into a new Trust.

With effect from 1st. August 2005 the new Trust will be called the Thames River Restoration Trust and its aims will be following:

1. To conserve, protect and rehabilitate water that constitute the River Thames catchment, for the benefit of all indigenous species (including Atlantic salmon and migratory trout).
2. To advance the education of the public in the understanding of river environments on watercourses throughout the River Thames catchment.

Since the Thames Salmon Trust commenced work in 1986 it purports to have

- Raised the profile of the Thames and salmon around Britain and the world.
- Encouraged further improvements in river water quality so that the Thames is now considered to be one of the cleanest metropolitan rivers in the world.
- Built 22 fish passes on the River Thames and 17 on the River Kennet that allow salmon to reach suitable breeding habitat on the river for the first time in nearly 200 years. Many of these fishpasses also allow the passage of a range of other resident fish species.

Role of the Greater London Authority and Non Governmental Organisations

Whilst there is no doubt that the fishpasses will allow breeding salmon to reach the upper reaches, the failure to maintain a consistent water quality in the Tideway has made a mockery of the Trusts efforts and totally negates the second bullet point in their achievements as stated above.

This particularly poignant as they work closely with the EA who control the water quality in the Tideway.

Thames Estuary Partnership

The Thames Estuary Partnership was established in 1996 with the aim of guiding and steering and monitoring environmental action on the Thames Estuary. In 1999 it published an Action Plan for the ensuing 15 years. This action plan provided the implementation focus for its blue print for the sustainable development of the Thames Estuary (TEP 2003).

The Action Plan (TEP 2003) contained 133 projects covering the themes of agriculture, air quality, biodiversity, commercial use, education and public awareness, fisheries, flood defence, historical and cultural resources, landscape character, recreation, waste and water and purports to provide a co-ordinated approach for the Thames Estuary in respect of all these issues.

Although the TEP has continued to develop and refine its objectives by reviewing the Action Plan on an annual basis, actions relate to ongoing projects and some early aspirations have not been realised.

It is interesting to note that one of the key polluting effects (The effect of waste disposal activities) is deemed to be beyond the remit of the TEP)

The Partnership has had some success in providing a co-ordinated approach to project control but does not deal in any way with enforcement.

Business View of Enforcement/Regulation

British Chamber of Commerce

A report published by the British Chambers of Commerce (BCC 2005) has criticised the Government for failing to cut the burden of regulation. The report examines the Regulatory Impact Assessment (RIA) system which is aimed at reducing regulatory burdens on business.

The report assesses the success of the RIAs and also investigates the wider objective of cutting unjustified regulatory burdens on business. According to the report the number of business regulations has increased by 46% in the first half of 2004 compared with a year earlier.

In addition, it finds that the majority of new regulations come from domestic legislation with the proportion of regulations emanating from the EU declining.

Among the BCC's recommendation is a review of the bodies tasked with overseeing the regulatory burden – “we do not understand why the UK needs a Better Regulation Task Force or Better Regulation Commission, an Regulatory Impact Unit, a Business Deregulation Team and Panel for Regulatory Accountability”. The BCC propose streamlining process with fewer bodies taking an active role in achieving less regulation, and for them to report to Parliament rather than Government.

The report also calls for the EU to have a similar independent body to challenge new business legislation.

Thames Water (Utilities Ltd.)

Thames Water (TW) a company owned by RWE Group a German utilities conglomerate, serves 13 million customers in London and the Thames Valley across over 5000 square miles. It is responsible for over 31000 km of water mains and 67000 km of sewers. It operates 97 water treatment plants ranging in size from a few megalitres to around 720 megalitres a day. For wastewater treatment it operates 350 sewage treatment works ranging from very small simple plants serving a few hundred people to the enormous plants in East London serving 4 million people.

TW's Business Plan in its latest manifestation (TW 2003) outlines its strategy for the period 2005 – 2010.

This shows an annual projected spend of over £2 billion. The company purports to tailor increased expenditure towards customer driven issues such as:-

- eliminating sewer flooding
- eliminating sewage odour
- reducing supply pipe leakage

Business View of Enforcement/Regulation

Thames Water is regulated by OFWAT the Government Agency responsible for both Water and Sewerage provision and related charges.

OFWAT only rate TW as average in controlling sewer flooding, and make no mention whatsoever of failure of wastewater treatment plants affecting the Tideway with massive discharges of untreated sewage.

The company is subject to enforcement for issues outside the Tideway area and appears to regard the Court Actions and fines as a necessary part of legitimate business expenditure. It also appears to rely upon OFWAT granting powers to increase water and sewerage charges to finance improvements, rather than seeking such from its own or financial markets derived monies.

Water UK

Water UK is the industry association that represents all UK water and wastewater services suppliers at national and European Level. It seeks to provide a positive framework for the water industry to engage with Government, regulators, stakeholder organisations and the public. It aspires to influence decision making towards developing sustainable and economically sound policies.

It has a research arm, UK Water Industry Research Limited, which promotes collaborative research into matters of joint business and government/regulatory concern. It is subscribed to by 25 major water companies and is the trade association in this field.

Its view of enforcement is predictable, in that it is a waste of resources, and that Industry is always responsible and services the public domain very well. It achieves this by massive investment, predictably again it heralds achievements in its publicity and does not overtly publish industry shortcomings or failures.

Government Enforcement Guidance in an Interagency Setting

Government Enforcement Guidance in an Interagency Setting

Guidance from Government on interagency working is scant.

A DEFRA publication: Managing coastal activities, a guide for local authorities (DEFRA 2004) sets out in the Introduction from the Minister (Alun Michael) the hope that its publication will encourage partnerships.

It demonstrates a failure to do that, as it gives only a mention by name once (in a 56 page document) of eight of the major agencies involved in managing coastal activities. No mention is made of the substantial legislative powers or activities of these eight agencies.

It is a document that skates over the surface of a substantial problem.

The European Union Perspective

The European Union Perspective

The European Commission has recently expressed severe concern about two Thames Tideway matters that it considers warrant prosecution of the United Kingdom. London (Thames Tideway) should have been provided with advanced sewage treatment by 1998 and the UK Government now faces prosecution for failing to meet the relevant legislation (EU 1991). A report on a study carried out by consultants acting for the Commission listed the Thames Tideway as one of the six areas in the UK being at risk from eutrophication.

The UK EA has not considered it necessary to designate any sensitive areas for improvement in water quality other than those (some 76 in all) which required phosphate stripping of sewage effluents to prevent eutrophication. No areas were designated to improve standards to meet the EU Directives relating to Bathing Water or Shellfish Water, i.e. those with an environmental health connotation. This reluctance to require Thames Tideway water improvements relating to EH issues continues and is demonstrated in the latest OFWAT agreement with Thames Water, which makes no substantive improvement proposals. It can be assumed that this reluctance is due to the perceived need to maintain water and sewage charges at or around current levels. In addition to the failure to implement The Waste Water Directive the UK may be subject to prosecution by the EU for failure to implement the Shellfish Water Directive.

The European Commission is threatening to act upon complaints from UK Shellfish producers about consenting sewage discharges which affect shellfish water (EA 2001).

The 1979 Shellfish Water Directive obliged the UK Government to designate Shellfish Waters, to protect and improve water quality and achieve microbial water standards by 1987.

Sewage discharges and the operation of combined sewerage overflows are significant obstacles preventing the standards being met in most shellfish waters, this is especially true of the Thames Tideway. The Thames Tideway is subject to very substantial detriment from both these sources.

In an attempt to meet the requirements of the Directive the EA set a lower microbial standard, thus moving the goal posts of compliance, a move that the ENDS report (2001) called “a convenient fiction”. This same standard permitted no more than 10 “significant independent CSO spills” per year. Significant spills are defined as of more than 50 cubic metres. The Thames Tideway had more than 50 such significant spills in 2004. No warning of discharges was given despite the Water Company (Thames) and the EA having invested heavily in rainfall radar and discharge monitoring. The environmental health of leisure users of the Tideway is frequently put at risk as they are exposed to neat sewage and for activities involving immersion or splashing obvious and severe hazards exist. Shellfish beds are frequently exposed to plugs of polluted water.

Implementation of The EU Bathing Waters Directive which sets mandatory microbial standards for all waters used for bathing has also been subject to delay and obfuscation in England and Wales. The Government have linked compliance with this standard to controls on farm pollution and have used the costs of controlling such pollution as a reason to push for less stringent standards. It has however acknowledged (ENDS 2002) that its methodology for arriving at the framework upon which its estimates and opinions are arrived at are made on “un-supported assumptions”. The Thames Tideway has specified Bathing Waters which are subject to unacceptable levels of microbial pollution. A guidance paper (DEFRA 2003) was extremely vague about every environmental health enforcement related issue. Up grading of designated bathing, fresh water fish and shellfish waters, achievement of river quality objectives, and the need to address modification of sewage treatment processes to take discharges of endocrine disrupting substances, were put on hold pending cost benefit analysis. The control of odour emissions from sewage works and any reference to recreational waters used for water sports are other notable exclusions from the Guidance. All of these matters have direct negative impact on the Thames Tideway.

Differential Enforcement Regimes

Differential Enforcement Regimes

The Thames Tideway is frequently subject to massive discharges of untreated sewage with potentially severe impacts on those using the waters for work or recreational use. Elsewhere in the UK sewage discharges achieving much higher (but not EU Directive compliant) standards are being threatened with legal action. South West Water, the Waste Water Company for Cornwall has been implementing Ultra Violet Light treatment at thirty one of its plants, but is still failing to consistently meet required standards, especially at St. Agnes, Newquay and Perranporth. Lawyers acting for the campaign group Surfers Against Sewage are proposing that legal action may be taken under the provisions of a breach of human rights under the Guerra principles (a 1998 judgement by the European court in which it held that the Italian authorities infringed the rights of residents near an EnicChem chemical factory). In this area the Environment Agency have formerly recognised the performance of sewage treatment works to be unsatisfactory despite outfall microbial standards being several orders of magnitude better than those in the Thames Tideway.

The Thames Tideway frequently experience massive fish kills due to the de oxygenation of river water caused by massive (Million tonnes) raw sewage discharges. These discharges are treated by the Environment Agency as consented discharges and claim that no enforcement is therefore possible against Thames Water. This stance is at complete odds to their activities elsewhere in the same water catchment. On 26th. April 2005 The Environment Agency (EA 2005) triumphantly published details of a successful prosecution of Thames Water incurring fines of £60000 for allowing a failure at one of its sewage works to pollute an Oxfordshire Brook causing substantial fish kills. The case was taken under the provisions of Section 58(i) of the Water Resources Act 1991 and in addition to the fines Thames water was ordered to pay £4350 in costs. In the same news release an Environment Agency spokesman stated “This was entirely avoidable, you can have the most advanced computerised, remote sensing system in the world – but you still need a sufficiently trained and capable human to interpret the readout”.

“Thames Water is a multi million pound business and it has already been criticised for its priorities. Whilst an individual alarm may be of low priority it does not take a genius to work out that five in quick succession from the same works indicating a storm event during one of the driest summers on record should merit an immediate response”.

“Thames Water only antagonised the situation by being slow in co-operation with our investigation after the event”.

Despite complaints of malodour from accumulations of sewage occurring around houseboat mooring after sewage works failure or combined sewer overflow discharge. The LPHA have not taken any prosecutions against Thames Water. This is stated to be as a result of the uncertainty of both the application of and likelihood of success of the Nuisance Abatement process under provisions of the Public Health Acts 1936-1961.

However as reported in EHN (2005) this situation is being re-assessed in light of Plymouth City Council's proposal to seek an Anti-Social Behaviour Order (ASBO) against the Chief Executive of South West Water in an attempt to prevent nuisance from sewage odours in Plymouth. This decision was itself influenced by the London Borough of Camden's success in getting an ASBO served on the Managing Director of a fly posting firm for nuisance (EHN 2004).

Part Four Summary and Conclusion

Part Four Summary and Conclusion

The Government is obviously aware of concerns about enforcement and regulation and is attempting to address these by implementing the Hampton Report recommendations, it is regrettable that no references to Thames Tideway issues were mentioned in the report. The recommendation should however become the good practice benchmark for all enforcement agencies especially those in Government departments or set up by them.

The recommendations should not however be used as a further cloak to wrap around large multimillion pound international companies who both regularly flout and seek to amend legislative standards to their benefit.

The Greater London Authority has expressed concern about control of the Tideway, after a fairly vigorous formal scrutiny. It has no powers to require change and its lobbying power is affected by the relationship it has with the Government of the day.

Both the River Thames Society and the Thames River Restoration Trust have very worthy aims, and have had some notable success in improving conditions and infrastructure, their interest in TTEH enforcement only occurs when there is a synergy with the issues that are the subject of their current lobbying campaigns.

The Thames Estuary Partnership has carried out a great deal of work in trying to bring together all the bodies working to improve the environment but is only focussed upon the general environment and not upon the health impacts of failure to meet regulatory standards. It seeks to achieve change by a lengthy and slow process of negotiation.

Business views of regulation are predictable in that regulation is considered a burden which needs redressing. It is at odds with the Government about the methods of reducing regulation and considers these methods of themselves to lead to growth in regulatory bodies.

Thames Water has a view of regulation consistent with the wider business community and appears to treat any penalties incurred as a form of taxation which it pays as a necessary ill. It is consistently failing to effect changes to the Tideway discharge and blames OFWAT for not permitting customer price increases, using this as a reason for inaction. It appears content with the disparity in enforcement regime between the Tideway and the balance of the area under its control.

The Water industry trade association echoes these views, this is hardly surprising as it is funded by the Water Companies.

Government has issued little or no guidance on inter agency working and appears to live in hope that partnerships between organisations with consistent aims will evolve.

The European Union is concerned at the failure of the UK to meet EU Directives which directly affect TTEH issues. These failures are consistently and frequently putting the health of river users at risk.

The tragedy of differing enforcement regimes is reinforced by both the lack of clarity in the relevant UK interpretation of EU law into UK legislation and the policy differentials between the various geographical divisions of the Environment Agency. This shows that the same water company is prosecuted for more minor though serious infringements, whilst it is being formally permitted to carry out the same behaviour to a greater degree in the Tideway.

It is to be hoped that the development of the ASBO legislation, by the Courts establishing case law that is resilient enough to withstand appeal, will improve the ability of the LPHA to take more enforcement action with the aim of securing improvements.

The use of ASBO type legislation if extended across the whole range of TTEH enforcement could have significant benefit in improving the effectiveness and timeliness of the future regulatory regime. It could, by initiating action against senior named individuals rather than companies, act as a significant deterrent to the acceptance of regulatory failure as a legitimate business expense.

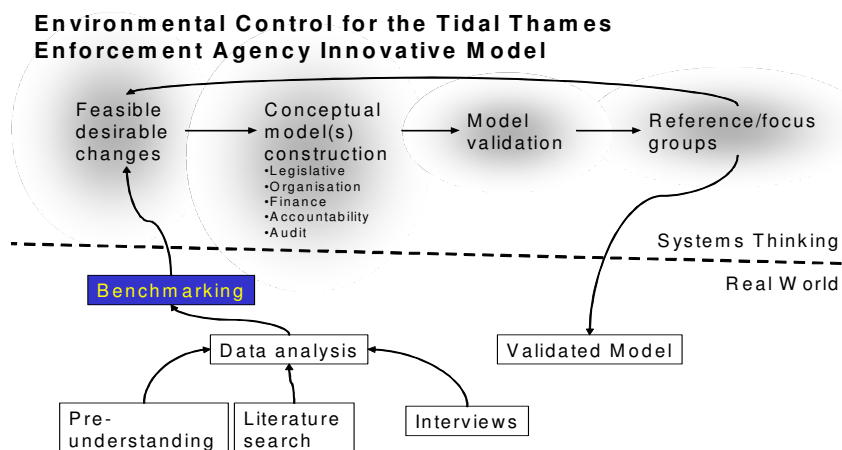
Part Five

Case Studies

In order to benchmark this study alternative national services providers were sought. The criteria for selection were:

- Estuaries or water systems with affinities to the Thames Tideway in ecological and tidal terms
- Major ports with complex infrastructures
- Countries with highly developed environmental health enforcement regimes

The elements of the research model dealt with in Part Five are highlighted below



For the purpose of this study benchmarking is defined as:
Seeking reference points elsewhere to determine criteria by which the model finally proposed can be measured.

These criteria were:

- Range of layers or organisations involved in EH enforcement
- Range of legislation covered
- Effectiveness as judged by rapporteur
- Size of area of volume of trade
- Democratic involvement

Data was collected by personal contact with key officers of the benchmark organisations or academics with expertise in the field of study.

In this connection I am indebted to

Dr. P. Mielman B.F.A.G.U.S. Head of Port Health, Port of Hamburg

Dr. J.P.H.J Vera, IVW, Head of Safety Authority for the Port of Rotterdam.

Professor Jeremy Rayner, Malaspina University College, British Columbia Canada.

for providing copious information and commentary on the enforcement regimes in their own countries.

The three subjects used for benchmarking are:

Germany - the Elbe Tideway and the Port of Hamburg

Netherlands - the Rhine/Waal Tideway and the Port of Rotterdam

North America - the Great Lakes and St. Lawrence Seaway

As part of the benchmarking process the enforcement regimes were compared to determine if alternative service models existed which would beneficially “fit” the Thames situation.

Germany and Hamburg

Germany and Hamburg Case Study No. 1

In Germany the Umwelt Bundes Amt (UBA) is the Federal Environmental Health Enforcement Agency. It operates under the jurisdiction of the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety and is responsible for a most diverse range of topics

It is administratively divided into six divisions and Division II is charged with responsibility for Health related Environmental protection and protection of eco-systems.

It has itself five divisions relating to Marine and Surface Waters, Drinking Water, Soil, Air and Environmental Hygiene.

Whilst the UBA has Federal responsibilities each German state has its own environmental health responsibilities which in some areas are delegated to local agencies. Some states such as Baden Wurtenburg have very sophisticated Administrations and world class laboratory facilities, which carry out some work such as Rhine Water sample analysis for both Federal and State organisations.

The Elbe Tideway

Location

The Elbe, 1,165 kms in length of which approx. 870 kms are navigable, is approx. 15 kms wide at its mouth. After about 70 nautical miles of estuary trading, past Cuxhaven, Brunsbüttel, Glückstadt and Stade, Hamburg's port boundary is at last crossed at Wedel, where port pilots board ships and ensures safe navigation into one of the 320 berths in the Port of Hamburg.

At high tide the Elbe has a depth of 16.3 m. While taking advantage of the high tide ships with a maximum draught of 13.5 m (saltwater) can sail into the Port of Hamburg. Independent of tide the draught is restricted to 12.80 m.

Hamburg is Germany's most eastern seaport by the North Sea. It is approached through the traffic separation zones in the German Bight and is controlled by a modern traffic management system. The German territorial waters begin in the so-called BOX to the west of Heligoland.

The Port of Hamburg works in close collaboration with neighbouring or associated ports and fulfils a function as a hub within the regional transport chain.

The Lübeck Container Terminal on the Baltic sea is linked to the Port of Hamburg by block train connections. Using rail rather than going by sea the transport time to Lübeck can be reduced by two days

Due to this connection via Lübeck the Port of Hamburg is marketed as having access to two seas i.e. the North and Baltic Seas.

The lower Elbe ports of Brunsbüttel and Glückstadt have special significance for the inter land metropolitan region. They specialise in the handling of bulk goods. At the three terminals in Brunsbüttel 10 million tonnes are handled per year.

Various sections of industry, such as paper, cement and timber agricultural supplies and power stations are supplied via the outer harbour in Glückstadt where conventional general cargo is also handled.

CuxPort (Cuxhaven) is a multi-functional shipping terminal very near to the international shipping routes between Western Europe, Scandinavia and the Baltic States.

The port of Magdeburg is one of the largest German inland ports and is located on the left of the Elbe. 334 kilometres from the sea. The ports of Dresden, Riesa and Torgau are all served by Hamburg, as thanks to the reunification of Germany, the Port of Hamburg has regained its natural hinterland along the Upper Elbe that can now be reached by inexpensive transport on inland barges. With its downstream ports and inland centre, (although the extent of waterborne inland traffic greatly exceeds anything similar in the UK) Hamburg has several similarities to London,

Safety Vessel Traffic Management

In direct Comparison with the Port of London Authority. The City of Hamburg is responsible for the supervision of the Elbe, a federal waterway. In addition Hamburg carries out the duties of the Vessel Traffic Management by:

- Supervision, control and guidance of shipping traffic
- Supervision and safety in the Port

Just as in the Thames Tideway up-to-date traffic information, e.g. on available berths is conveyed to the ships via the VTS (Traffic Service). Based on information from the chain of radar stations on land, in case of poor visibility or upon request from the estuary the pilots assist ships' movements with radar instructions.

For the Port of Hamburg with its location far inland an efficient pilot system is of great importance. An AIS (Automatic Identification System) station on land records the transponder signals transmitted by ocean-going, inland, port, traditional and pleasure vessels and thus enables intelligent traffic guidance. This system is only incrementally being implemented for the Thames Tideway.

Functions undertaken by the Port of Hamburg Authority

- Environmental Protection & Safety of Industrial Plants
- Conceptions and Consulting on Environmental Protection

- Safety of Industrial Plants
- Authorization and Authority Relation Management
- Environmental Representatives
- Training
- Advice on Dangerous Goods
- Chemical Product Service
- Occupational Safety and Health
- Strategic Advice and Conception
- Security

Formal Enforcement of Federal (and European (EU)) Legislation is undertaken by German Government and State Agencies.

This makes the facilitating role of the Port of Hamburg Authority especially valuable to its clients. In many cases by indicating to clients what practises may or may not be acceptable appears to act as a proxy for the Federal Authority.

This latter role distinguishes Hamburg from London as the PLA has a more robust enforcement role and acts for some of the functions undertaken by the Federal and State Authorities who have similar roles to that undertaken by the EA in the UK.

Chapter 25

Netherlands and Rotterdam

Netherlands and Rotterdam Case Study No. 2

The Netherlands is divided into twelve provinces. Whilst the central Parliament provides the legislative framework, the twelve provincial authorities have their own responsibilities for environmental health enforcement. Some of these responsibilities are delegated to local agencies or municipalities.

Environmental Health enforcement nationally in Holland is the responsibility of the Inspectie Verkeer en Water staat (IVW). The IVW is the national Transport and Water Management inspectorate it had its origins in eight former inspectorates and was established in its current form in 2002.

As currently operated it has 12 regulatory divisions relating to:-

- Merchant shipping
- Fisheries
- Inland navigation
- Taxis
- Buses
- Aviation (3)
- Railways
- Trams

However during 2005 this structure will radically change and the division listed above will be replaced by a structure composed of regulatory units based upon regulatory domains. This will involve merging business operations. Where possible business operations will be incorporated into shared service organisations within the Ministry of Transport and Water Management (SSO – V & W). This re-organisation will be coupled with an extensive computerisation of inspections.

For Water Regulation however a distinction is drawn between the management of national waters (Rijk Waterstaat [Directorate General of Public Works & Water Management] [RWS]) and that of regional waters by the water boards and the relevant provincial and municipal authorities. National waters are therefore regulated by the IVW but operated by the RWS, regional waters may be regulated and operated by provincial authorities or by municipal authorities.

The amalgamation of inspectorates referred to above relates therefore only to the government regulation of national waters and has reduced the agencies involved from four to three.

Rotterdam and the Rhine/Waal Tideway

Rotterdam is the key port of the Netherlands and is at the mouth of the Rhine/Waal Tideway and is built on the delta of these rivers. The port complex has like the London

ports been completely transformed since containerisation commenced in 1966 and now handles 6.5 million containers per annum. Direct size comparison with London is problematic as cargoes differ and London (PLA) figures are recorded in tonnes rather than containers. It is however larger than London, serving 30000 sea going vessels a year and 120000 inland vessels the latter of which extensively service the Rhine hinterland.

The Port of Rotterdam was until 2004 the responsibility of the Rotterdam Municipal Executive (RME) in effect the Rotterdam Local Authority. The RME exercise all the relevant Environment health enforcement powers of a municipal authority, whilst subject to both the provincial and IVW controls.

During 2004 the Port of Rotterdam was corporatized (sic) and became a business company in its own right. This company is organised into three divisions for commercial Infra structure and Port control with five additional policy units.

The Port Company retains control and enforcement of environmental health relating to waste and ships discharges.

North America The Great Lakes

North America The Great Lakes Case Study No. 3

The Great Lakes is an enormous area of North America spanning the United States of America/Canadian border it links to the Atlantic Ocean by way of the St. Lawrence Sea way, which itself runs through Canada and the United States.

For the United States the National Oceanic and Atmospheric Administration NOAA) manage some of the Environmental Health enforcement issues in their territorial waters. They have very extensive Federal responsibilities ranging from Air Quality to Volcanoes and Whales, they have very substantial resources devoted to :-

- Charting & Navigation
- Coasts
- Fisheries
- Oceans
- Research
- Satellites
- Weather

They carry out their Great Lakes responsibilities from their Northeast Regional Office, which itself is supported by five world class laboratory/research complexes, perhaps the most famous of which is the Woods Hole laboratory.

State legislatures also have environmental health units as do large cities and some counties.

For Canada, Federal, Provincial and territorial governments share regulatory authority over environmental health issues. Each order of government passes it's own laws makes regulations, and exercises its powers under the laws, including enforcement.

The Federal department of the environment is referred to as Environment Canada (EC). The shared nature of environmental health jurisdiction makes close co-operation between the federal provincial and territorial governments vital to success of nation objectives. As a result Ministerial councils have been set up to facilitate this co-operation. Such councils typically include Federal, provincial, and territorial Ministers responsible for environmental health protection. Acting as equal partners Ministers use the Council mechanism to co-ordinate policies and actions to resolve inter-jurisdictional problems and exchange information. Enforcement arrangements within EC are broken down into various subject matters and specific Enforcement programme personnel (with firearms training!) discharge this function. Enforcement takes place jointly with EC, Health Canada, the Office of the Attorney General, Department of Justice the Royal Canadian Mounted Police and the Canada Customs and Revenue Agency.

The Enforcement Programme is physically carried out by the EC Environment Protection Service which operates from Headquarters in the National Capital and five regional offices

Provincial agencies have Environmental Health Units with responsibility for Drinking Water recreational water, Waste Water, Air Quality Environmental Health risks and related Provincial legislation.

Part Five Summary and Commentary

Case Studies

Part four set out to examine in detail the arrangements for environmental health elsewhere in the world, three such studies were undertaken two in Europe and one in North America.

The Elbe Tideway has similarities to the Thames Tideway in that it serves the North Sea and is subject to many of the same pressures. Environmental Health enforcement is however undertaken by a wide range of both Federal and regional agencies, with each subject being the responsibility of a separate agency. The role of the Hamburg Port Authority is to act as an intermediary between the enforcement agencies, also undertaking some enforcement duties itself.

The Port of Rotterdam on the Rhine/Waal estuary is subject to Federal, and Lower Water boards, and municipal authorities, in addition to retaining powers for waste control. The recent and continuing re-organisations both of the State apparatus, and the municipality shedding some port responsibilities, mean that the situation relating to consistent enforcement is likely to remain confused, from a users point of view, for sometime. The proposed computerisation and e-enabling of the state inspection process is likely at least in the short term to complicate what is already potentially a four tier enforcement regime still further. Exacerbation of this situation could occur as the result of the state apparatus re-organisation complexity.

The North American experience somewhat mirrors that of Europe in that overarching Federal agencies with very extensive remits purport to effect environmental Health controls. The largest difference between the continents is the extent of the research commitment in North America. Again here county agencies and state legislations have local ordinances which effect environmental health controls.

The plethora of state/provincial territorial/county administrations each with its own additional legislation and enforcement regime and personnel complicate the picture.

Commentary

None of the case studies offered a model which could be used in the Thames Tideway and offer improvement on the current situation.

All of the case studies indicated at least three levels of enforcement and in one case (Netherlands) the potential for several more. Integration of approach between agencies appeared problematic and there is a real possibility of “turf wars” over contentious issues with no thresholds set for demarcation of responsibilities between agencies.

Initially the Canadian use of its Council of Ministers appeared to be worthy of consideration, as an alternative delivery mechanism for TTEH enforcement policy and co-ordination.

Further detailed consideration however revealed a three tier legislative regime and a nine tier enforcement arrangement, which is obviously why the Council of Ministers arrangement is necessary, in order to provide co-ordination and centralised policy making.

The principles of all relevant agencies meeting as a policy making body, all with equal voting rights despite their role in the legislative hierarchy, is worthy of further consideration. In the TTEH situation the current lack of co-ordination both for policy making and service delivery, and the general lack of democratic input would be addressed by a mechanism similar to the Council of Ministers.

The aspiration in conducting the three case studies, was that they would provide a benchmark against which the current TTEH enforcement regime could be measured in terms of more effective co-ordinated service delivery.

All of the correspondents readily acknowledged that the multiplicity of agencies involved in TEH enforcement in their countries offered no benefits when compared with the operated on the Thames. The impact of the case studies on this project was not therefore what had been anticipated. All three studies however confirmed that the situation experienced on the Thames for which this project seeks to provide a new model is of international extent. If a working practical model can be established it should be capable of wide implementation.

Reinforcement of concern at the widespread nature of fragmented multi-agency Tideway EH enforcement was obtained when the draft findings of this study were presented to the 2005 International Association of Port Health Authorities Conference. All commentators on the paper presented confirmed that the Thames experience mirrored their own and expressed considerable interest in the Model Authority proposed. A synopsis of the paper presented is shown at appendix A.

Part Six

Responsive Model

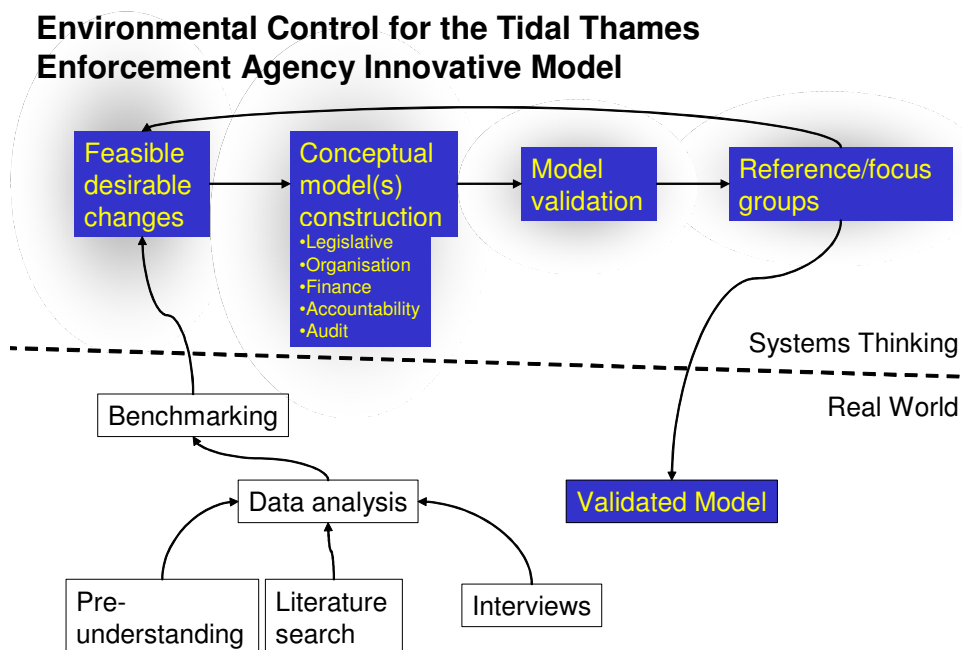
Part Six

Responsive Model

Parts Two to Five of this project have indicated that the current TTEH enforcement regime exhibits a number of flaws. From the existing situation a number of feasible and desirable changes can be inferred.

In Part Six these changes are identified and brought together to form a new conceptual model.

The elements of the research model dealt with in Part Six are highlighted below.



Chapter 28

Responsive Model

The model organisational structure would be required to respond to all the problems and challenges facing the variety of organisations and agencies charged with Thames Tideway Environmental Health enforcement.

The use of best practice, and thinking on effective organisations should ideally be incorporated into the design of such a model.

The model must take into account the current Government thinking on enforcement/Regulation and enshrine the outcomes of the Hampton report. It must be responsive to external legislative pressures and be robust enough to withstand constant legal and political lobbying pressures from Multi-national business. It must be financially secure and have income streams that cannot be seen to be influenced by those against whom enforcement action may be taken.

It must be capable of being created without the excessive use of Parliamentary time, and established in a manner which enabled it to maintain good relations with the former bodies with whom it would be both neighbours and collaborative colleagues.

It would have to be accountable, democratic and transparent, committed to stakeholder consultation and consequent flexibility with a high degree of political dexterity.

Its legal basis should be carefully drafted to ensure that enforcement problems experienced by existing bodies were not replicated.

Most importantly it should have clear, unequivocal easily understood and “felt fair” policies which have been affirmed by stakeholder consultation accepted as meaningful by the majority of stakeholders.

The best public services organisations were identified by Hadley & Young (1990) as having real clarity about their values and goals and to enshrine genuine beliefs in the value of public services reflected as enabling others. Any responsive model for the TT must include these elements, to enable the maintenance of environmental health of those using the river. Hadley & Young also refer to the absolute need for organisational coherence and control, implying that the organisation should have authority, ability, experience and coherence.

The existing organisations charged with TTEH enforcement often appear to working in a confused and disjointed manner see figure eight which is a far cry from the best organisations identified by Hadley and Young.

Existing Agencies Relationships

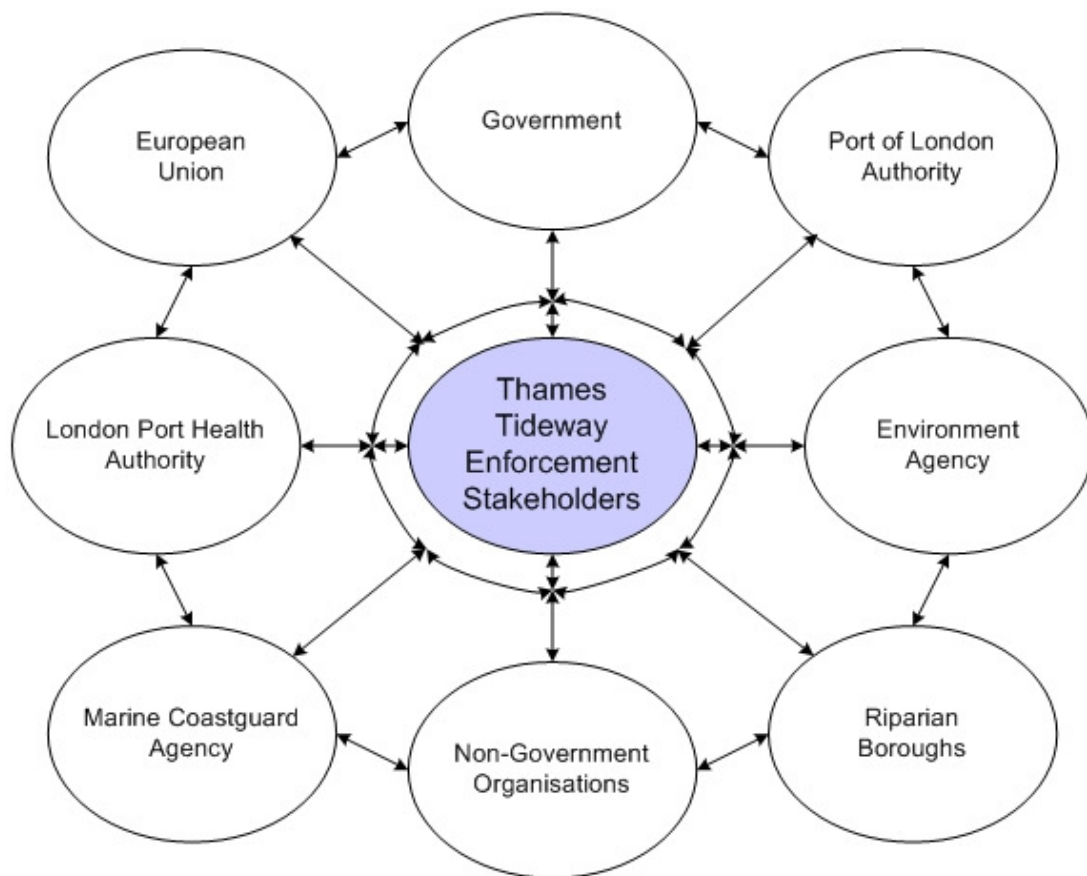


Figure eight: Existing Agencies

Profile of a Model TTEH Authority

Profile of a Model TTEH Authority

The model would need to answer all the concerns previously expressed and would need to establish a stake holder forum to ensure that the values and philosophy of the organisation were in tune with democratic mores and that these are reflected in ensuing policies.

The model authority would need:-

- a) to reflect governance issues
 - (i) A policy making Board of say 10 persons elected by a cross section of river users and other stakeholders. (This would meet the expressed need for democratic governance.)
 - (ii) A policy making framework which was transparent, inclusive and relevant reviewed on a two yearly cycle.
 - (iii) To publish Annual Business Plans, set concomitant objectives and performance targets.
 - (iv) Be subject to performance auditing by the Continuous Performance Assessment Team of the ODPM, or the National Audit office.
- b) to ensure that all the functions currently undertaken by the existing enforcement agencies are discharged.
 - (v) Be given legislative powers to discharge the duties of the LPHA, EA, MCA, DEFRA (fisheries) and PLA.
- c) to ensure that appropriate resources are available to discharge the legal functions.
 - (vi) Be funded on a 50/50 basis by river users/volumes of cargo and Government Grant.
 - (vii) Be staffed by directly recruited specialists.
 - (viii) Be managed from one headquarters building in the mid Tideway with operational bases in both upper and lower Tideway sections.
 - (ix) Use one consistent pool of equipment and vessels.

A model TTEH Authority might be constituted as shown in **figure 9**.

Model Agency Relationships

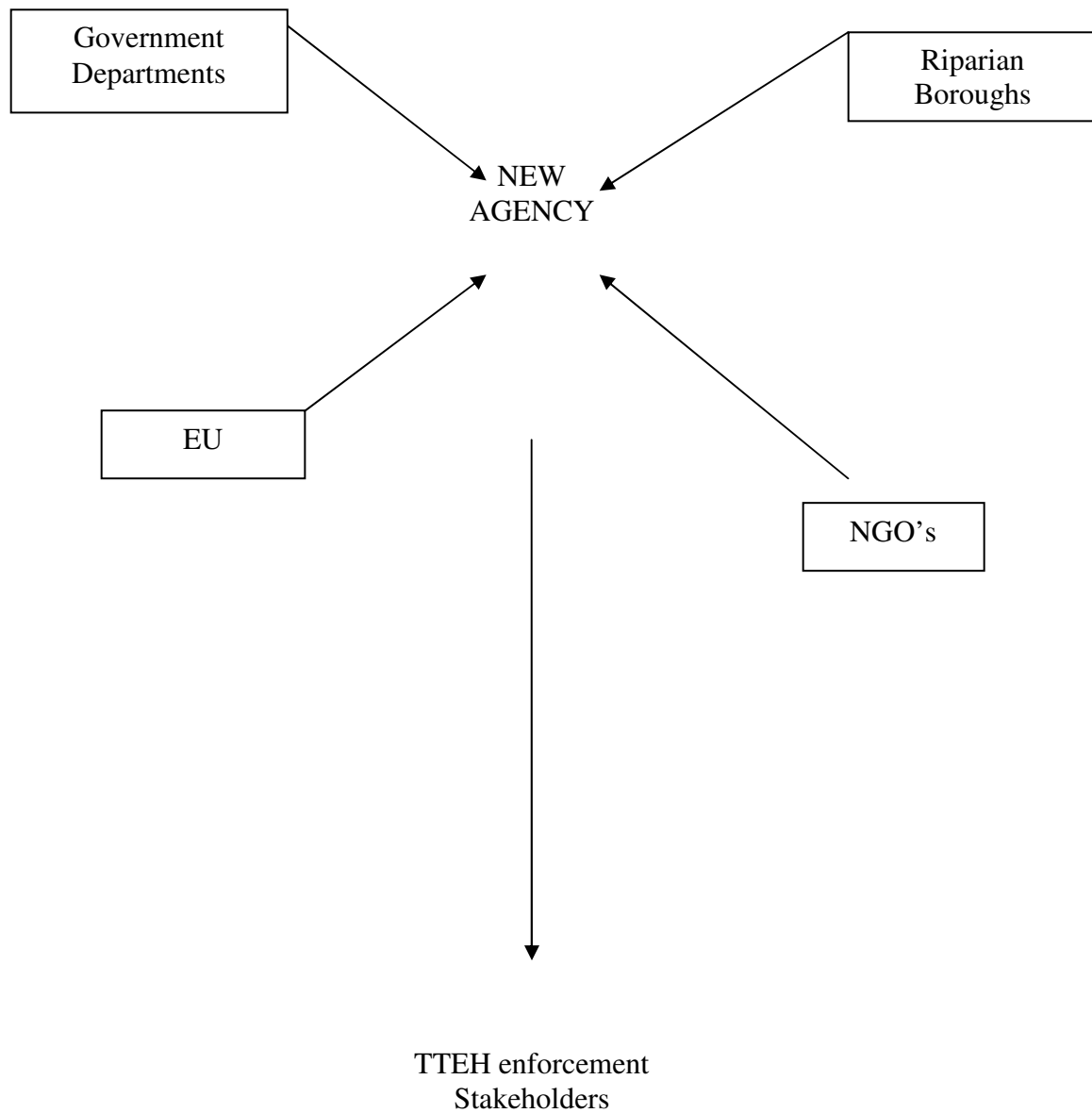


Figure 9 Model TTEH Authority

A Practical Model

A Practical Model

A practical model would include all of the above criteria, but could be attached to a host organisation which was itself an elected body.

This result could be achieved by creating a new Thames Tideway Authority.

It would receive its governance and policy direction from a board consisting of democratically elected Members and enlarged by the additional of River Users representatives and two nominees each from the Environment and Marine and Coastguard Agencies each having equal voting rights. Administration would be provided by an officer cadre formed initially from the operational staff of the donor organisations, and operate from riverside offices. Central administration (Finance, HR, administrative support and legal services) would be provided by existing resources within one of the donor organisations. Finance would be provided by a cargo toll based income structure, topped up by government grant on a reduced basis.

The geographical administrative area would be that of the LPHA, encompassing as it does all TT areas of the other agencies, and slightly wider boundaries. Legal responsibilities of the new Authority would be all those currently held by the LPHA, PLA, MCA and EA relating to TTEH enforcement, Navigational Safety, search and Rescue remaining with the MCA

Perceived Benefits of Implementing the Model TTEH Authority

Perceived Benefits of Implementing the Model TTEH Authority

Weaknesses of the existing regimes have been identified in this study as:-

- a) Fragmented and disjointed policy making
- b) A lack of perceived transparency and democratic input
- c) Non user friendly customer contact arrangement
- d) Diversion of resources into the multiplicity of agencies and duplication of infrastructure
- e) A lack of “one voice” which weakens any case requiring advocacy and lobbying

The perceived benefits of the Model TTEH Authority would meet these concerns in:-

- That the new Authority would as a result of its breadth of responsibility provide strategic and co-ordinated planning for environmental health management and enforcement for the whole of its geographical area.
- That as a result of its democratic basis and the breadth of membership of its managing stakeholders board it would be widely regarded by Government and stakeholders as an acceptable and transparent organisation suitable for purpose.
- That it would provide from its riverside based offices consistent and one-stop-shop points of contact for all stakeholders.
- That resources would be properly allocated to ensuring proper enforcement objectives clearly linked to policies designed to initiate and sustain long term environmental health of the TT.
- That the new Authority would provide the strongest possible base for advocacy and lobbying for TTEH issues, in UK and EU for a with the aim of properly influencing legislative improvement and securing appropriate funding.
- That major economies of scale can be achieved in particular in relation to river craft, buildings, plant and operational regimes.
- That both emerging threats and current problems which may escalate are dealt with in a rapid coherent and effective manner.
- That true objectivity in enforcement is achieved and seen to be achieved, and verified by regular external moderation.

Perceived Benefits of Implementing the Model TTEH Authority

- That the resources available are sufficient to deal with problems caused by major international companies, and the consequent legal implications of seeking formal remedies through the Courts.

Validating the Ideal Model

The ideal model was tested by reference back to the key interviewees in the four principal Tideway organisations. (Reference/focus groups).

Whilst there was total agreement on the need for improvement to the current regime, opinions varied as to the perceived benefits and difficulties of implementing the ideal model.

Summary of perceived benefits

- Improved co-ordinated strategic planning
- Targeting of resource use
- Larger overall resources potentially enabling bolder/more vigorous policies
- Reduction in overall costs and better value for money
- Democratic accountability
- Objectivity in enforcement

Summary of concerns (anonymised)

- The status of non-elected board members would be lost if sovereignty over functions was lost.
-
- The lack of political imperative and Parliamentary time would make the necessary legislative changes a very lengthy process
- Changing the policies of national agencies which considered the TTEH as only a component of their wider responsibilities would be very difficult.
- The problems needing resolution are not of sufficient gravity to warrant organisational change of this scale “it isn’t broken so why try to fix it”
- Financial arrangements would be especially challenging particularly in respect of:-
 - sustainability of income streams
 - the need to find initial funding for start up costs
- An extension of the existing Memorandum of Understanding process would be as beneficial.

Commentary on Model Validation

The benefits perceived all indicated that existing difficulties in TTEH enforcement would benefit from implementation of the Model.

The concerns outlined were typical of those expressed by members of any organisation which is faced by change. These are usually expressed in the following way

- It would cause too much disruption
- The Board would have to change
- It would be costly and difficult to fund
- Change is not really needed on this scale
- If change is required it should only be in small manageable portions

The concerns expressed did not attempt to gainsay the need for radical change.

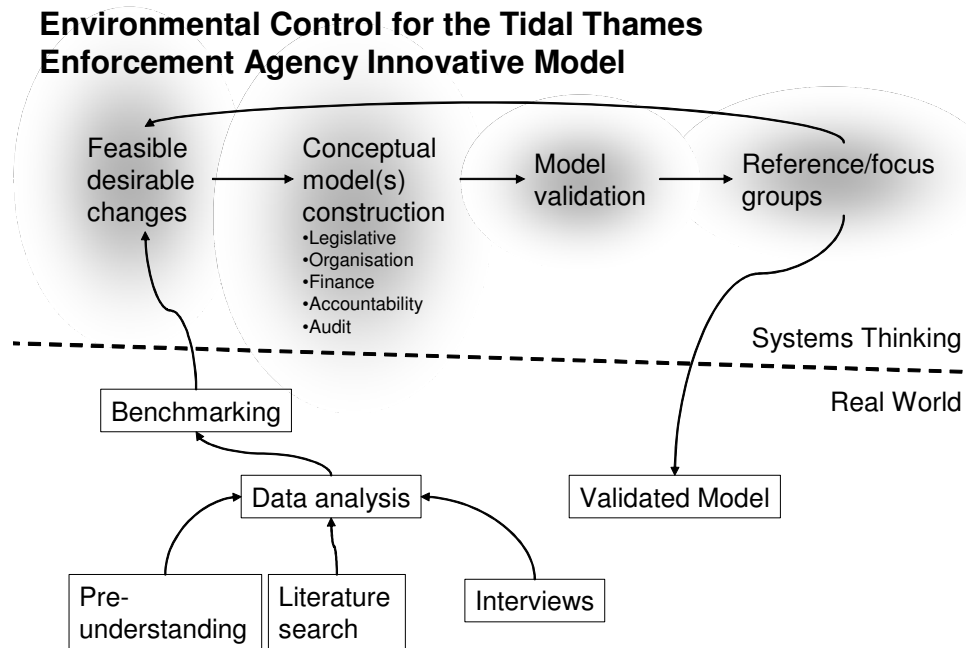
Part Seven

Observations and Commentary on Methodology

Part Seven

Observations and Commentary on Methodology

The process of using the research model is discussed in Part Seven.



Observations and Commentary on Methodology

As Pidd (2003) discusses, a guiding principle of Soft System Methodology (SSM) is that the methodology itself is systemic, it being a cyclic learning system. The SSM approaches used in this study formed such a cyclic learning system, characterised by a cycle of discovery, learning, analysis, modelling and validation, hopefully resulting in more learning.

The discovery and learning process in the rationally bounded, in depth modified interviews proved very difficult to conduct, because as predicted this proved to be a complex and dynamic process. The interviewees, all at the Head of their organisations, whilst willing to participate in the process, and generous with their time and factual information were less forthcoming about their own visions for future organisational change, and even more so about their organisation's views. This may be attributed to the complex internal and external political conditions and constraints within which top level enforcement agency staff have to operate.

However I was privileged to have such high level access, and as far as can be ascertained no other such access has been permitted, such access however came at the price of having to deal with the large volume of information provided. Distilling this information into "Hard" and "Soft" categories was challenging since the boundaries of both definitions are not distinct. As an example the future of funding, whilst seemingly "hard" information could easily fall into the "soft" category as it is really conjecture and a subjective assessment by the interviewee. During the interview process such Hard/Soft information was always qualified by statement such as "dependant upon the political situation", or "subject to external economic pressures" much of the data overlapped to only a small degree and the "reporting diversity" which Ball (2003) referred to was not the hurdle it was initially assessed to be.

The formation of a controlled vocabulary for this study proved relatively easy. This was due to the consistency of purpose and working environment of those involved. In essence there were no difficulties in communication even when the dynamic nature of the interviews meant that complex political interactions about detailed technological issues were discussed.

Initial fears about inability to obtain crucial information were allayed and the problem of dealing with too much, rather than too little proved more challenging.

The post interview audit process did however identify lacunae, but these omissions were soon rectified either by a further personal meeting, or by telephone conversations followed by electronic confirmation.

The information obtained from the author's pre understanding was invaluable as it enabled rapid contextualisation of data provided both in interviews, and in the literature search. The reference back of the model to the interviewees was an interesting experience as

political pressures may have prevented true expression of both personal and organisational future aims.

The use of the short pilot study involving only the Port of London Authority, proved invaluable in determining validity and fitness for purpose of both the rationally bounded process and the information. It also gave an early indication of the extent of work required to store, classify and index the volume of information received. As the PLA provided the second largest volume of information (exceeded only by the MCA) the pilot study proved itself a true test.

Throughout the process strict attempts were made to ensure that observer bias was not detrimental. In terms of factual information received, I am convinced that this was achieved. It may however be that some information was shaped, or amended to take account of the relationship both between the author and interviewee, and the interviewee's organisation, and that of the author. The outcomes of this study are however based almost exclusively upon the "hard" information, and it is difficult therefore to determine where observer bias may have affected the outcome.

More than sufficient data was acquired to enable rigorous comparisons, and what was initially seen as a narrow field of study appeared to grow exponentially throughout the process. Benchmarking however proved problematical as whilst some similarities were found between organisations insufficient consistency existed to enable direct relationships to be established.

Whilst as Alverson & Deetz (2000) state "complete objectivity can rarely if ever be achieved", the nature of the accumulation of data and its use in this study as a translation back to the subject have striven to achieve this end, hopefully transcending constitutive and value laden considerations.

The model TTEH Authority (**see figure 9**) could only be achieved by instituting major strategic change to all of the existing enforcement agencies.

Rohlin (1974) states that realising strategic changes within organisations requires from the leading actors either dissatisfaction with the current state or a conviction that the conditions can be better.

This view is set out in **figure 10** below.

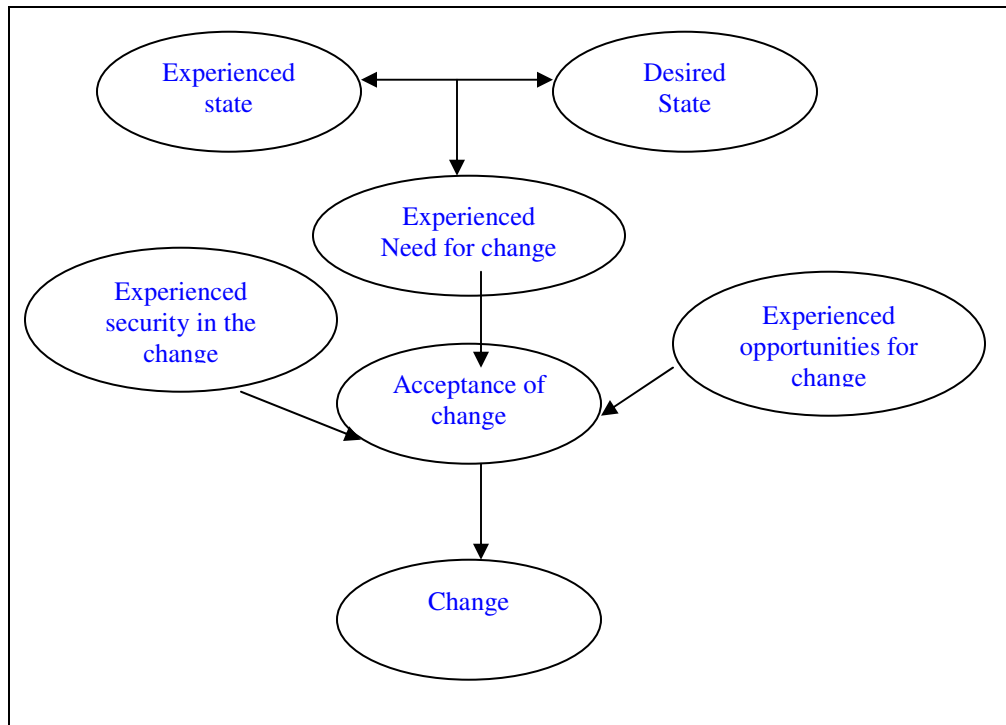


Figure 10

Rohlin's view of change is that frequently organisations may be in a state of denial over the need for change and thus change averse, a state he calls conscious incompetence. A demanding, understood and shared strategic vision can expose a need for change and thus the organisation moves to conscious incompetence, this unsatisfactory position provides an incentive to change to a state of conscious competence.

This view is set out in **figure 11** below.

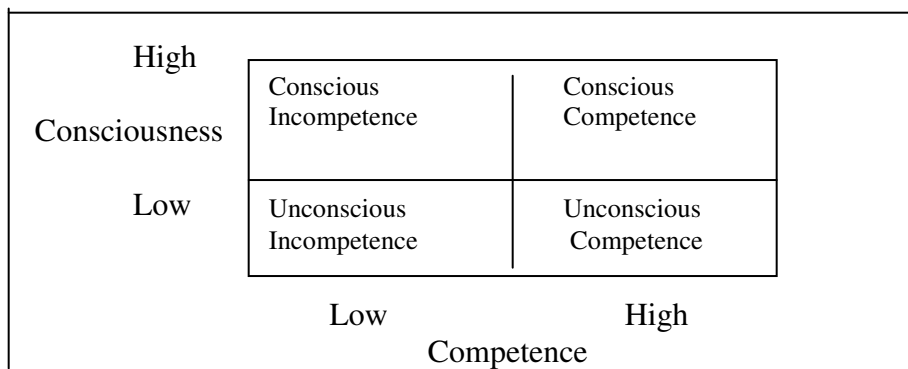


Figure 11

Observations and Commentary on Methodology

It could be argued that TTEH enforcement agencies are currently in the state of conscious incompetence identified by Rohlin.

To achieve the implementation of the model TTEH Authority a shift from the state of conscious incompetence to a state of conscious competence would be required.

This would entail a major change in the perception of the current situation by all of the agencies involved.

Part Eight

Conclusions

Conclusions

The Thames is the longest and arguably the greatest river in the United Kingdom. This status has been recognised in legislative enactments for least six hundred and seventeen years. Such legal controls have always been directed to securing the protection of the Thames and its tributaries as a watercourse, and preventing it becoming a source of nuisance. Since at least 1535 the Corporation of London has been involved in the protection of the Thames, this duty and associated legal powers continue into the 21st. Century. The work of Snow in the 1840's both in establishing for the first time a link between water and disease, and in the controls he advocated really only reiterated those of 300 years previously, sadly these controls still seem not to be fully implemented in the Twenty first century.

The links of water catchment areas to the controls on the Thames, each wave of legislation spawning a new administrative regime have resulted in major improvements, though as now these improvements always lagged behind the real need for change. The rapid continual growth of the London conurbation requires constant pro-active infrastructure formation if the Thames and its users are to be protected. This rapid growth both in construction and population continues to put real pressure on the safety of environmental health issues relating to the Thames, the legislative powers need to control this issue need to be complex integrated and uniformly enforced.

The Thames Tideway is currently subjected to environmental health risk at a high and increasing rate. These risks are exacerbated by the relentless filling of every available river bank space with high cost dwellings and the consequent conflicts between "new" residents and "old" river users.

The changes in commercial traffic from upstream to downstream following containerisation and the threat to the refuse barge traffic could mean that the only commercial uses of the upper tideway are tourism and sewage disposal. The cruise ship industry's attempts to increase the use of the Pool of London as a cruise destination appear to have stagnated due possibly to the security situation, and the weakness of the dollar. The use of the river for water based sports is increasing however and the environmental health of all those participating is at considerable risk. Thames fisheries are also at risk not only due to the very considerable fish kills due to de-oxygenation as a result of inadequate sewage treatment, but additionally due to the massive pathogenic bacteria and virus loading. This latter problem seriously affecting the quality and environmental health safety of the shellfish take. The seemingly inexorable rise in water temperature enables imported alien species to thrive and fishing for these species is likely to have specific environmental health consequences. The possibility of major pollution events, other than sewage and agricultural run-off, is still very high and the arrangements for controlling such events are not only essential, but fully justify their relatively high cost.

The organisations charged with the plethora of Environmental health controls on the Tideway all have different geographical boundaries. This is due to the diverse legislative

backgrounds which led to their creation. Although attempts were made in the London Port Health Authority Order 1980 to make consistent boundaries between the LPHA and the PLA, no account was taken of the various external waterways other than the Thames, or of the dynamic changes to the water front and the massive reduction in upstream working wharves. To be effective, any TTEH organisation should work to one consistent and exclusive boundary.

There is a lack of consistent integrated environmental health control of the Tideway with organisations demonstrating a lack of knowledge of each others responsibilities and policies. No consistent data bases exist although one capable of extension to carry out this function is in an advanced state of preparation.

The failure to take formal action in the face of severe environmental health problems is lamentable. Parallels with history are not possible in this context as in former times of massive river pollution episodes, only very inadequate legislative controls existed. This is not the case today, and the presumption against formal action is not consistent with the outcomes of the Hampton Report. The difference in accountability for enforcement mechanisms should by now have been overtaken by compliance with the ODPM enforcement concordat.

There are four main organisations responsible for TTEH enforcement -

- The Port of London Authority
- The London Port Health Authority
- The Marine and Coastguard Agency
- The Environment Agency

All of these organisations have some overlap in TTEH enforcement, the greatest overlap occurs between the activities of the LPHA and the other three organisations. This is attributable to the pervasive nature of environmental health considerations in many related legislative controls on the Tideway.

The diverse range of responsibilities is considerable in extent and warrants each organisation maintaining extensive legal teams to ensure adherence to legal requirements both internally and externally.

Governance of the organisations varies between the democratic non party election processes of the City Corporation (LPHA), to the appointment of the non publicly accountable PLA to the Agency status of both the MCA and EA.

The organisations have all evolved from previous authorities, although the LPHA has only had a name change during its 133 year existence. Funding for the various organisations also differs widely with the PLA raising its income from cargo tolls and rents, whilst the LPHA is able to charge for some inspections but gains the greater part of its income from Government Revenue Support Grant. Both the EA and MCA whilst generating some license income rely almost entirely upon direct Government subsidy. No consistent auditing arrangements are in place.

Some of the organisations (PLA/MCA) share accommodation but the administration of TTEH enforcement is carried out from some fifteen different locations and no central directory of enforcement regimes exist although some of these are referred to in the PLA handbooks.

Several other agencies and collaborative groups are interested in TTEH enforcement. Notable amongst these is the Kent and Essex Sea Fisheries Committee, which is currently subject to reorganisational pressures, but which has a real interest in the environmental health of the Tideway fisheries and its related commercial impact.

Joint working arrangements purport to exist between all the organisations on the Tideway. Those that have been formalised by use of detailed jointly determined Memoranda of Understanding appear to work well. The informal arrangements between organisations appear at best to be laissez-faire and at worst no longer functioning. The oft mooted but infrequent sharing of resources has not been followed through to implementation although both economies of scale (e.g. in the use of expensive launch time) and in joint research programmes have been demonstrated in the past.

Policy making arrangements differ between all the organisations, some being taken nationally, some regionally and some locally. It is interesting to note that those policies developed locally (perhaps with the benefit of local knowledge) are adjudged by those charged with implementation to be the most successful.

In terms of accountability and externally moderated performance audit only the LPHA is directly democratically accountable and subject to annual performance audit by the continuous performance teams of the Audit Commission.

The Government obviously have concerns about Enforcement and there are reflected in the outcomes of the Hampton Report. This report may have extensive impacts upon central government enforcement arrangements. Its impact on TTEH enforcement however is difficult to assess since despite the authors attempts to ensure inclusion no reference to the Tideway was made either in the main body of the report, or its conclusions. The principles for enforcement proposed in the report are however targeted to improving cost effective enforcement regimes and should only be welcomed by all involved.

The role of two of the organisations involved in TTEH enforcement have been the subject of formal scrutiny by the Greater London Authority, and recommendations made about perceived performance enhancements. The GLA has however no powers to require changes, and in any event only has jurisdiction over the upper part of the Tideway.

The River Thames Society and the Thames Salmon Trust (The Thames River Restoration Trust w.e.f. 01.08.05) are both now active lobbying organisations seeking improvements to the Tideway through they do not explicitly work towards environmental health standard improvements. Some collateral benefits for TTEH enforcements are included in their aims. The Thames Estuary Partnership is extensive both in membership and in the

number of projects it lists as interest. It purports to provide a co-ordinated approach to environmental improvements to the Thames Estuary (roughly equivalent to the Tideway in extent). It has not demonstrated an interest in enforcement, preferring to attempt to achieve its ends by discussion and negotiation.

The Business view of enforcement both generally via the British Chambers of Commerce and specifically by Water UK is that there is too much regulation and enforcement is often an unjustified burden on business and that there should be one independent body set up by the EU to challenge the reason for and the work of UK regulators.

Thames Water appears to regard regulators with weary resignation and whilst working with partners, in attempting to justify higher customer prices, treats fines as legitimate business expenses.

Apart from the Hampton Report there is little government guidance on enforcement interagency working. What has been provided is relatively superficial especially in the TTEH context. The European Union has obvious concerns about TTEH enforcement shortcomings as it is proposing to take action against the UK for failure to properly implement two major EH related Directives.

Enforcement action taken elsewhere in the UK by both the same, or similar organisations to those involved in the Tideway, has been more robust. The failure to adopt this same robust attitude to problems on the Tideway is problematical and gives rise to the assumption that pressures are being placed on certain organisations to take a different and less pro-active stance. The development of the Anti Social Behaviour Order legislation, and the widening of its application to the Chief Executives of major international companies is an opportunity to effect controls purported to be impossible under earlier legislative regimes.

Studies of environmental health enforcement regimes in Europe and North America indicated that administrative arrangements are in every case more complex than in the UK. The plethora of organisations/agencies involved have in at least one case (Hamburg) resulted in a specialist department being set up to facilitate/co-ordinate legislative compliance by the Port users.

The Canadian model of enforcement organisation co-ordination by a Council of Ministers is seen as a good attempt to bring together an extraordinary diverse and complex enforcement regime.

No models suitable for emulation in a TTEH enforcement setting were found.

Testing the Responsive Model with interviewees elicited very guarded responses. These ranged from the “it isn’t broken so why try to fix it” reaction to “it would be too difficult to achieve and would require Parliamentary time which would not be forthcoming” reply. Concern was also obviously expressed at the potential loss of sovereignty of all or part of existing responsibilities.

Environmental Health enforcement for the Thames Tideway despite its long and heavily legislated history appear currently to be neglected by both the legislature and those charged with investigating national enforcement and regulatory reform.

Whilst considerable resources have been expended in promoting the Thames as a “clean” river the actuality is that frequently it is totally polluted with raw sewage and provides considerable environmental health risk to users. The increase in density of the population in close proximity to the Tideway entails the possibility of a great number of people being affected by any Tideway associated nuisance.

Existing TTEH enforcement organisations are not consistently working in a joined up fashion, and duplication of effort and expenditure can be demonstrated. This lack of coherent effort is exacerbated by the lack of both consistent policies and data bases. Coupled with a seeming reluctance to initiate formal legal action for infringement the environmental control regime is not as strong as the problems encountered warrant.

The overlaps in organisation function coupled with silo thinking has led to a disjointed and fragmented approach.

The differing governance arrangements and funding sources has led to accusations of organisations working in a non democratic and non accountable fashion.

This concern by external bodies is echoed by the European Union in the expression of its concerns that TTEH enforcement is not meeting required standards and is therefore ineffectual.

Other similar areas in the world have not, despite much current reorganisation, developed environmental health enforcement models capable of effectively addressing the difficulties experienced in the Thames Tideway.

All of the foregoing issues and the burden of concerns about TTEH enforcement identified in this report lead to the conclusion that a new integrated enforcement model should be designed and implemented.

Without such improvements to the enforcement regime there is a grave danger of both the environmental health of those using, resorting to or living in proximity to the Tideway being adversely affected and of the UK being pressured into action by the EU against its wishes.

The reality of the early implementation of such substantial organisational change is unlikely to be accepted currently by the bodies concerned. If a general acceptance can however be gained, that the proposal is a sensible long term aim that the bodies concerned may be willing to accept, an incremental approach to achieve the same end can be adopted.

Conclusions

A possible model for a new single agency exists in the form of the Meat Hygiene Services (MHS)

The MHS is itself an agency of the Food Standards Agency (FSA) which itself has formal relationships both with the Department of Health and The Department of Environment Food and Rural Affairs.

It was formed as the regulatory body for all meat related issues in England and Wales and carries out extensive enforcement activity against a broad range of businesses.

The MHS in turn has appointed the City of London Corporation as it's agent for all enforcement matters at the UK's largest meat market London Central Markets (Smithfield).

Part Nine

Report Recommendations

Report Recommendations

Report Recommendations

1. That a new single agency responsive model is designed in conjunction with all four of the current TTEH enforcement organisations to deliver all relevant services.
2. That the organisations involved should be invited to accept the model
3. That subject to acceptance of paragraph 2 above a detailed model implantation plan be devised and implemented.
4. If paragraph 2 above is not accepted, then all the organisations be requested to accept the principle that the creation of a single enforcement agency is a justifiable and worthwhile longterm aspiration.
5. If paragraph 4 above is accepted a detailed incremental step implementation programme be devised and commenced.
6. That a target date for implementation be set
7. That the Departments of Health, Environment Food and Rural Affairs, Trade and Industry and the Home Office and the Food Standards Agency should complete an urgent comprehensive review of the current arrangement for environmental health enforcement on the Thames Tideway and test the case for an umbrella organisation acting as a single unified operational agency.
8. That subject to acceptance of paragraph 2 above the timescale for change be that adopted by HM Treasury in the implementation of the Hampton Report.

Part Ten

A Possible Way Forward

Part Ten

Chapter 36

A Possible Way Forward

If as seems likely the organisations involved in TTEH enforcement do not warmly embrace the concept of a single Tideway agency then the following outcomes could be pursued, as a series of mini programme incomes:-

- a) Formal Memoranda of Understanding (MoU) be arranged between the EA/LPHA the PLA/LPHA and MCA/PLA the PLA/LPHA and MCA/PLA. With the aim of securing joint policies on enforcement and testing legal limitations to secure measurable improvements.
- b) That the MoU specifically addresses the issue of the best use of resources with the aim of reducing or eliminating duplication of effort or expenditure on operational tasks.
- c) That the positive sharing of fixed resources be addressed especially in relation to buildings, vessels, vehicles, jetties pontoons.
- d) That as a matter of urgency joint training initiatives be commenced. This process to be initiated with familiarisation sessions, and progressing towards true multi-tasking of staff.
- e) That a protocol providing detailed guidance on joint working arrangements be developed, tested, verified and implemented.
- f) That a single data base for TTEH enforcement be established with open access to all relevant agencies. That such a system be based upon electronic Geographical information (GIS) principles, linked to a differential geographical position system, and that all incidents be identified by a unique GIS identifier to prevent duplication and enable ready accurate information storage retrieval.
- g) That a protocol for dealing with inter-organisation disputes be agreed, if necessary involving the use of third party arbitration.

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Appendices

Appendix A.

Thames Tideway Environmental

Health

Enforcement

The Case for a single unified agency

ROGER WATSON

Thames Tideway Environmental Health Enforcement the case for a single unified agencies

The Tideway consists of the 94 miles of the River Thames from Teddington to the outer estuary and the square miles of the estuary itself with 6 million people dwelling in its catchment.

The Tideway is an extremely stressed environment, beset on all sides by development and redevelopment, used as a water source and a disposal point for London's sewage whilst supporting substantial fisheries and substantial wild life population.

This important area is "policed" in environmental health terms by a bewildering array of agencies all with slightly different aims, methodologies and policies. This paper discusses research into the question "How do the varied organisations contribute to environmental health enforcement for the Tideway and in what way" with the overall aim of determining if a better model for this service provision can be delivered.

For many years inter agency and joint working groups all relating to the provision of the co-ordinating environmental health enforcement have been operating. Whilst these groups have been moderately successful and developed a plethora of Memoranda of understandings and joint working protocols, no strategic planning of either policy issues or resource allocation has been possible.

The Tideway struggles to meet the widely conflicting demands made upon it as

- London major sewer
- a substantial food source
- a major tourist attraction
- a major highway
- a major leisure resource

These conflicting demands often put the health of large numbers of Londoners in jeopardy. Government Departments charged with overseeing the enforcement functions frequently struggle with these conflicting demands and the way in which they inform or indeed drive very major investment decisions.

The Greater London Authority Scrutiny Committee has undertaken reviews of specific river related issues, but has never considered River related environmental health enforcement more broadly.

This presentation will examine the reasons that have driven the emergence of the current structure, major problems in the past and how they were addressed.

The current pressures for change in delivery mechanisms will be discussed and their potential impact analysed. This current and historical context will be set against a clear exposition of the geographical extent of the area under discussion relating that area to both watershed catchments population, and enforcement agency boundaries. The roles of

the various organisations will be discussed, together with a commentary on the various types of professional expertise available, and the opportunities and constraints offered by the various professional groups involved.

The whole issue of Thames Tideway enforcement will be examined in detail, discussing the roles of all the agencies concerned, their levels of resources application and staffing arrangements. The current inter agency liaison arrangements will also be discussed and their efficacy or otherwise evaluated. The current fragmented policy making arrangements are analysed and strengths and weaknesses identified. The financial arrangements and funding sources for all the enforcement agencies will be detailed and analysed.

The role of Government inspection and audit in the various agencies will be discussed together with the impact on services of the GLA Scrutiny regime. The role of Non Governmental Organisations (NGO's) will also be evaluated.

Three case studies from other countries will explain how this function is carried out in other major waterways of national or international significance.

The paper will seek to resolve whether the Thames Tideway can benefit from a single enforcement agency with integrated policy making and legislative justification and how such a change can be best achieved and in particular what steps are required to make any legislative amendments required will be outlined.

Such an agency could bring the following benefits:

- i) Strategic and co-ordinated planning for environmental health management;
- j) A consistent and single point of contact for all stakeholders;
- k) Proper allocation of resources;
- l) Strong advocacy for the environmental health of the Thames;
- m) Economies of scale in the provision of services;
- n) Rapid and coherent responses to current and emerging threats;
- o) Objectivity in enforcement;
- p) The resources needed to deal with major international offenders.

Appendix B.

Research Questions

The questions to be addressed in the data gathering phase are:

- i) What are the aims and objectives of the organisation?
- ii) What strategy does the organisation adopt to achieve its aims and objectives?
- iii) What is the legislative basis of the organisation?
- iv) What legislation is the organisation responsible for enforcing?
- v) What is the geographical area of control?
- vi) What are the costs of running the organisation?
- vii) What is the source of funding?
- viii) What is the structure of the organisation?
- ix) What partnerships exist with other organisations?
- x) How is environmental control policy arrived at?
- xi) How do partner organisations relate to each other?
- xii) To what extent do partner organisations share aims and objectives?
- xiii) Are partnership arrangements formalised?
- xiv) What is the status of the organisation, eg Government Department, Agency or NGO?
- xv) What external audit measures is the organisation subject to for finance and performance?

Personal Learning

Personal Learning Outcomes

The consequences of the study upon my personal learning have been considerable.

Whilst I have been engaged in Environmental Health enforcement for over four decades, and have previously carried out several major reorganisational reviews involving hundreds of people and budgets of tens of millions of pounds, I have never undertaken a work based project subject to the rigours of academic discipline.

I have found this approach and, in particular, the use of soft systems methodology, a substantial aid to decision making.

The ability to have a methodology with which to both examine and hopefully revolve tensions around problems is of substantial assistance. It is difficult to estimate the benefits of pre-understanding in conducting this study, but linking pre-understanding with the chosen SSM has proved in my view a very potent tool for research. If I were to commence the study again, I would however approach the following matters in differing ways:

1. Breadth of field of study.

The subject is of massive proportions and each of its component parts could usefully form the subject of further research, especially in the fields of finance, legislation and inter agency relationships. Future studies could usefully have narrower parameters.

2. Data Handling

The volumes of data gathered could fill a small room, early identification of data handling, retention and retrieval would be beneficial. Such material supplied in many differing formats did not lend itself to be readily digitised without substantial expenditure.

3. Time Consideration

The problems of the worker/researcher in identifying sufficient time to allocate to a study were acute and considerably underestimated. Periods set aside were always inadequate and interviews overran, lacunae took some time to resolve.

4. Political Sensitivities

The delicacy of the position of the worker/researcher during structured interviews which are considering issues which potentially threaten not just the way in which tasks and activities may be performed, but the very existence of organisations that deliver such activities and tasks outcomes is very considerable. The need to stress and re-emphasise the objectivity of the study was absolute. In this context, being able to describe the SSM approach with its integral consultative elements was useful.

However, if this task were to be approached again considerably more initial attention should be paid to considering the effects, not only of organisation threatening proposals, but also of the research itself on those participating, in order to allay fears and sensitivities.

I also consider that I have gained a greater insight into the workings of agencies including my own. This has led to a wider understanding of values, objectives and outcomes sought and of their perceived validity in a TTEH context.

As many of the proposals could have been viewed as being of threat to the organisations concerned, the need to present potentially confrontational issues in an as non-threatening way as possible was clearly important. An important learning outcome was an increased facility in this regard.

A major test for any insider/researcher is the need to achieve and maintain objectivity. In my case this was a considerable challenge.

During the process of the study when repeated demands on Chief Executive time were made, it became evident that this type of research can only be undertaken by a researcher/practitioner with a high level of both pre-understanding of the issues, and good quality and resilient high level contacts in the organisations subject to study. I am very fortunate that I received such sustained goodwill without which this study would not have been possible.

Self Critique

At an early stage in the study it became clear that I was suffering from an initial arrogance about the level of pre-understanding I had presumed in respect of the other organisations involved. Despite over four decades of professional involvement in the field of study obtaining proper insight into the complexities of the TTEH organisations required an early and severe reconsideration of my own level of pre-understanding. An example of this presumption was the realisation during the pilot study with the PLA that the legislative basis for that organisation was contained in one major statute. It was demonstrated to me that the true legislative base was a bewilderingly complex web of statutes encompassing major Acts, Regulations, Orders and Bye-laws.

Maintenance of objectivity was also a constant struggle, for the worker/researcher employed by and potentially imbued with the values and aims of one organisation to undertake objective assessments of other similar or related organisations is especially challenging. In my own case this was only achieved by constant reference to the methodology and achieving a degree of objectivity in the form of critical distance hence dealing with the study in a coherent structured and consistent manner. Subjective assessment of objectivity attainment is oxymoronic. However I was able to demonstrate objectivity when examining my own organisation (the LPHA) both by the use of critical distance and careful methodology implementation. This resulted in a critique of that

organisation which was not always positive and demonstrated organisational shortcomings to which I had previously subscribed as being acceptable.

All researchers need self discipline and for the worker/researcher holding a senior position in a challenging demand led environment this is especially essential. An early revision of the need to more self disciplined, both in relation to time management and adherence to research methodology was required.

Professional Benefits of Undertaking this Project

I have identified four elements of professional benefit accruing from undertaking this study:-

- Greater knowledge – the extent of my knowledge and understanding of Thames Tideway organisations has been greatly enhanced.
- Improved networking – although this project was probably only possible in this format as a result of existing networks formed with senior management of relevant organisations, this study has further strengthened these contacts. In particular the elements of finance and legal contacts have been considerably enhanced.
- Greater Credence – Although only anecdotal it appears that I have gained greater credence with my peers, both through undertaking this project, and demonstrating a wider knowledge and understanding of others aims and difficulties.
- I have gained a higher personal profile as the result of this study. This is demonstrated by the receipt of requests to speak at international conferences, and the repeated and current requests to appear on national television to discuss the issues underlying this study.

Word Count: 35,072